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WEST VIRGINIA ENERGY HANDBOOK - 1982

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PREFACE

The purpose of this handbook is to provide a comprehensive reference source of West Virginia energy data. This publication does contain a few minor discrepancies due to the different methods of calculation employed by the various statistical sources. Much care has been exercised to insure that the statistics which appear in this publication are the most accurate available.

The following organizations provided valuable assistance in compiling this document.

West Virginia State Government

Geological and Economic Survey
Department of Mines
Department of Natural Resources
Oil and Gas Conservation Commission
Public Service Commission

United States Government

Army Corps of Engineers
Department of Energy
Department of the Interior

Private Sector

American Association of Petroleum Geologists
American Gas Association
American Petroleum Institute
Edison Electric Institute
Independent Petroleum Association of America
National Coal Association
West Virginia Coal Association

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ENERGY UNIT CONVERSION CHART

Fuels	Units	Conversion Ratio from Source	Physical Units	Physical to BTU Conversion Factor	BTU Units (Heat Content)
Anthracite Coal	Net tons	1/1,000,000	10^6 Net tons	25.4 10^6 BTU per ton	10^{12} BTU
Asphalt and Road Oil	Short tons	1/1,000	10^3 Short tons	(5.537*6.636)/1,000 = .0367435 10^6 BTU per bbl.	10^{12} BTU
Bituminous Coal (except electric and industrial)	10^3 Short tons	1/1,000	10^6 Short tons	23.529**	10^{12} BTU
Bituminous Coal Electric Utility	10^3 Short tons	1/1,000	10^6 Short tons	28.121**	10^{12} BTU
Bituminous Coal Industrial	10^3 Short tons	1/1,000	10^6 Short tons	27.0 10^6 BTU per ton	10^{12} BTU
Petroleum Refinery Coke (used as fuel)	10^6 barrels	None	10^6 barrels	6.024 10^6 BTU per bbl.	10^{12} BTU
Distillate and Diesel Fuel Oil	10^3 barrels	1/1,000	10^6 barrels	5.825 10^6 BTU per bbl.	10^{12} BTU
Electricity	10^6 KWH	1/1,000	10^9 KWH	3.412 10^3 BTU per KWH	10^{12} BTU
Gasoline Total Consumption (1960-1967)	10^3 gallons	1/1,000	10^6 gallons	5.248*1/42 = .1249525 10^6 BTU per bbl.	10^{12} BTU

* Indicates multiplication.
** Average for years 1960-1977.

ENERGY UNIT CONVERSION CHART

Fuels	Units	Conversion Ratio from Source	Physical Units	Physical to BTU Conversion Factor	BTU Units (Heat Content)
Gasoline Total Consumption (1968-1975)	10^3 barrels	42/1,000	10^6 gallons	5.248*1/42 = .1249525 10^6 BTU per bbl.	10^{12} BTU
Gasoline	10^3 gallons	1/1,000	10^6 gallons	5.248*1/42 = .1249525 10^6 BTU per bbl.	10^{12} BTU
Jet Fuel Military	(U.S. total only) 10^3 barrels	42/1,000	10^6 gallons	5.355*1/42 = .1275 10^6 BTU per bbl.	10^{12} BTU
Jet Fuel Commercial	10^3 gallons	1/1,000	10^6 gallons	5.572*1/42 = .13267 10^6 BTU per bbl.	10^{12} BTU
Kerosene	10^3 barrels	1/1,000	10^6 barrels	5.67 10^6 BTU per bbl.	10^{12} BTU
Liquid Petroleum Gas	10^3 gallons	1/1,000	10^6 gallons	4.011*1/42 = .0955 10^6 BTU per bbl.	10^{12} BTU
Natural Gas	10^6 cubic feet	1/1,000	10^9 cubic feet	1.032 10^3 BTU per cu. ft.	10^{12} BTU
Residual Fuel Oil	10^3 barrels	1/1,000	10^6 barrels	6.287 10^6 BTU per bbl.	10^{12} BTU

ALTERNATIVE FUEL EQUIVALENTS

1 million bbl/day crude oil	=	0.3650 billion bbl/year crude oil
	=	5.800 trillion Btu/day
	=	2.117 quadrillion Btu/year
	=	90.09 million short tons coal/year
	=	246.1 thousand short tons coal/day
	=	5.681 billion ft^3 natural gas/day
	=	2.074 trillion ft^3 natural gas/year
1 billion bbl/year crude oil	=	2.740 million bbl/day crude oil
	=	15.89 trillion Btu/day
	=	5.800 quadrillion Btu/year
	=	676.2 thousand short tons coal/day
	=	246.8 million short tons coal/year
	=	15.56 billion ft^3/day natural gas/day
	=	5.68 trillion ft^3year natural gas/day
1 trillion Btu/day	=	172.4 thousand bbl/day crude oil
	=	62.93 million bbl/year crude oil
	=	0.3650 quadrillion Btu/year
	=	42.55 thousand short tons coal/day
	=	15.53 million short tons coal/year
	=	979.4 thousand ft^3 natural gas/day
	=	357.5 billion ft^3 natural gas/year
1 quadrillion Btu/year	=	0.4724 million bbl/day crude oil
	=	172.4 million bbl/year crude oil
	=	2.740 trillion Btu/day
	=	116.6 thousand short tons coal/day
	=	42.55 million short tons coal/year
	=	2.683 billion ft^3 natural gas/day
	=	979.4 billion ft^3 natural gas/year
1 million short tons coal/day	=	4.052 million bbl/day crude oil
	=	1.479 billion bbl/year crude oil
	=	23.50 trillion Btu/day
	=	8.578 quadrillion Btu/year
	=	365.0 million short tons coal/year
	=	23.02 billion ft^3 natural gas/day
	=	8.401 trillion ft^3 natural gas/year

ALTERNATIVE FUEL EQUIVALENTS

1 trillion short tons coal/year	=	11.10 million bbl/day crude oil
	=	4.052 billion bbl/year crude oil
	=	64.38 trillion Btu/day
	=	23.50 quadrillion Btu/year
	=	2.734 million short tons coal/day
	=	63.06 billion ft^3 natural gas/day
	=	23.02 trillion ft^3 natural gas/year
1 billion ft^3 natural gas/day	=	0.1760 million bbl/day crude oil
	=	64.25 million bbl/year crude oil
	=	1.021 trillion Btu/day
	=	0.3727 quadrillion Btu/year
	=	43.45 thousand short tons coal/day
	=	15.86 million short tons coal/year
	=	365.0 billion ft^3 natural gas/year
1 trillion ft^3 natural gas/year	=	0.4823 million bbl/day crude oil
	=	0.1760 billion bbl/year crude oil
	=	2.797 trillion Btu/day
	=	1.021 quadrillion Btu/year
	=	119.0 thousand short tons coal/day
	=	43.45 million short tons coal/year
	=	2.740 billion ft^3 natural gas/day

I. TOTAL WEST VIRGINIA ENERGY PRODUCTION

VALUE OF ENERGY RESOURCES PRODUCED IN WEST VIRGINIA 1963 - 1979
(Thousands of Dollars)

	1963	1964	1965	1966	1967
Coal	$634,572	$693,572	$726,096	$753,851	$800,683
Natural Gas	55,919	50,968	48,743	49,940	50,962
Petroleum	13,367	12,975	13,591	14,623	14,244

	1968	1969	1970	1971	1972
Coal	$755,720	$807,811	$1,142,245	$1,128,282	$1,235,000
Natural Gas	62,086	62,575	61,583	60,613	64,800
Petroleum	13,149	11,888	11,871	11,609	11,400

	1973	1974	1975	1976	1977
Coal	$1,340,338	$2,218,418	$2,765,000	$3,278,180	$3,475,000
Natural Gas	80,601	92,794	83,735	122,099	168,141
Petroleum	11,965	27,058	29,715	27,099	32,333
Electricity	N/A	346,111	441,845	506,962	533,019

	1978	1979
Coal	$2,800,807	$4,134,854
Natural Gas	141,395	136,274
Petroleum	33,060	57,724
Electricity	588,997	628,424

Source: U.S. Bureau of Mines - West Virginia State Liaison Program Office and Independent Petroleum Association of America, The Oil Producing Industry in Your State; Edison Electric Institute, Statistical Yearbook.

TOTAL BTU PRODUCTION BY STATE

(Includes Electrical Generation)*

	Btu's (10^{12})
Texas	6,786
Kentucky	3,814
Alaska	3,116
West Virginia	2,943
Pennsylvania	2,504
Wyoming	2,495
California	2,492
Louisiana	2,484
Oklahoma	2,256
Ohio	1,560
Montana	996
New Mexico	818
Colorado	684
Utah	443
Kansas	397

*Based on 1979 data.

Source: West Virginia Fuel and Energy Office survey.

TOTAL BTU PRODUCTION BY STATE

(Excluding Electrical Generation)*

	Btu's (10^{12})
Texas	6,146
Kentucky	3,628
Alaska	2,885
West Virginia	2,712
Wyoming	2,420
Louisiana	2,325
Oklahoma	2,114
Pennsylvania	2,068
California	1,974
Ohio	1,162
Montana	942
New Mexico	748
Colorado	608
Utah	406
Kansas	316

*Based on 1979 data.

Source: West Virginia Fuel and Energy Office survey.

TOTAL BTU PRODUCTION PER CAPITA

(Includes Electrical Generation)*

	Btu's (10^6)
Alaska	7,790
Wyoming	6,238
West Virginia	1,549
Montana	1,423
Kentucky	1,059
Oklahoma	752
New Mexico	629
Louisiana	591
Texas	478
Utah	316
Colorado	236
Pennsylvania	211
Kansas	173
Ohio	145
California	105

*Based on 1979 data.

Source: West Virginia Fuel and Energy Office survey.

TOTAL BTU PRODUCTION PER CAPITA

(Excluding Electrical Generation)*

	Btu's (10^6)
Alaska	7,213
Wyoming	6,050
West Virginia	1,427
Montana	1,346
Kentucky	1,008
Oklahoma	705
New Mexico	575
Louisiana	554
Texas	433
Utah	290
Colorado	210
Pennsylvania	167
Kansas	137
Ohio	108
California	83

*Based on 1979 data.

Source: West Virginia Fuel and Energy Office survey.

TOTAL ENERGY CONSUMPTION OF MAJOR EASTERN COAL PRODUCING STATES
(In Trillion BTU's)

	COAL	OIL	ELECTRIC	N.GAS	TOTAL
Alabama	605.833	639.555	583.774	241.180	2,070.342
Illinois	854.396	1,855.009	1,141.067	1,194.139	5,044.611
Kentucky	620.559	518.531	399.705	216.341	1,755.136
Ohio	1,625.413	1,437.014	1,404.070	944.523	5,411.020
Pennsylvania	1,578.334	1,766.454	1,351.599	684.558	5,380.945
Tennessee	614.556	666.630	853.033	186.993	2,321.212
Virginia	174.153	940.967	544.195	136.308	1,795.623
West Virginia	784.064	223.052	200.342	154.269	1,361.727

TOTAL ENERGY PRODUCTION OF MAJOR EASTERN COAL PRODUCING STATES
(In Trillion BTU's)

	COAL	OIL	ELECTRIC	N.GAS	TOTAL
Alabama	493.477	111.206	236.359	87.396	928.438
Illinois	1,166.866	131.201	364.440	1.183	1,663.690
Kentucky	3,257.892	32.101	189.762	71.514	3,551.269
Ohio	990.100	62.554	372.656	116.494	1,541.804
Pennsylvania	1,956.000	16.191	418.261	99.816	2,490.268
Tennessee	240.868	3.325	201.118	.477	445.788
Virginia	767.023	.011	140.708	8.670	916.412
West Virginia	2,048.389	13.358	211.494	151.683	2,424.924

NET TOTAL ENERGY PRODUCTION OF MAJOR EASTERN COAL PRODUCING STATES

	TOTAL CONSUMPTION (In Trillion BTU's)	TOTAL PRODUCTION (In Trillion BTU's)	NETS
Alabama	2,070.342	928.438	-1,141.904
Illinois	5,044.611	1,663.690	-3,380.921
Kentucky	1,755.136	3,551.269	+1,796.133
Ohio	5,411.020	1,541.804	-3,869.216
Pennsylvania	5,380.945	2,490.268	-2,890.677
Tennessee	2,321.212	445.788	-1,875.424
Virginia	1,795.623	916.412	- 879.211
West Virginia	1,361.727	2,424.924	+1,063.197

Source: State Energy Data Report 1960-1978 DOE/EIA-0214 (1978)

II. WEST VIRGINIA COAL

WEST VIRGINIA AND UNITED STATES COAL PRODUCTION - TONS

1920 - 1980

Year	West Virginia	% Change in Production Over Year - W. Va.	United States	% Change in Production Over Year - U. S.	W. Va. % of Total Production U. S.
1920	89,590,271	+ 5.4	568,666,683		16
1921	90,452,996	+ .9	415,921,950	-36.7	22
1922	79,394,786	-13.9	422,268,099	+ 1.5	19
1923	97,475,177	+22.7	564,564,662	+33.7	17
1924	103,325,960	+ 6.0	483,686,538	-16.7	21
1925	176,306,656	+70.6	520,052,741	+ 7.5	34
1926	144,603,574	-21.9	573,366,985	+10.3	25
1927	146,088,121	+ 1.0	517,763,352	-10.7	28
1928	133,866,587	- 9.1	500,744,970	- 3.4	27
1929	139,297,146	+ 4.0	534,988,593	+ 6.8	26
1930	122,429,767	-13.7	497,526,299	- 7.5	25
1931	102,698,420	-19.2	382,089,396	-30.2	27
1932	86,114,506	-19.3	309,709,872	-23.4	28
1933	94,130,508	+ 9.3	333,630,533	+ 7.7	28
1934	98,441,233	+ 4.5	359,368,022	+ 7.7	27
1935	99,810,908	+ 1.4	372,373,122	+ 3.6	27
1936	118,134,202	+18.4	439,087,903	+18.2	27
1937	118,965,066	+ .7	445,531,449	+ 1.5	27
1938	93,511,099	-27.2	348,544,764	-27.8	27
1939	108,515,665	+16.0	394,855,325	+13.3	27
1940	126,619,825	+16.7	460,771,500	+16.7	27
1941	140,944,744	+11.3	514,149,245	+11.6	27
1942	156,752,598	+11.2	582,692,937	+13.3	27
1943	160,429,576	+ 2.3	590,177,069	+ 1.3	27
1944	164,954,218	+ 2.8	619,576,240	+ 5.0	27
1945	151,909,714	- 8.6	577,617,327	- 7.3	26
1946	143,977,874	- 5.5	533,922,068	- 8.2	27
1947	173,653,816	+20.6	630,623,722	+18.1	28
1948	168,589,003	- 3.0	599,518,229	- 5.2	28
1949	122,913,540	-37.2	437,868,036	-37.0	28
1950	145,563,295	+18.4	516,311,053	+18.0	28
1951	163,448,001	+12.3	533,664,732	+ 3.7	30
1952	142,181,271	-15.0	466,840,782	-14.3	30
1953	131,872,563	- 7.8	457,290,449	- 2.1	29
1954	113,029,046	-16.7	391,706,300	-16.7	29
1955	137,073,372	+21.3	464,633,408	+18.6	29
1956	150,401,233	+ 9.7	500,874,077	+ 7.8	30
1957	150,220,548	- .1	492,703,916	- 1.7	30
1958	115,245,791	-30.3	410,445,547	-20.0	28
1959	117,770,002	+ 2.2	412,027,502	+ .4	29
1960	120,107,994	+ 1.9	415,512,347	+ .8	29
1961	111,370,864	- 7.8	402,976,802	- 3.1	28
1962	117,018,419	+ 5.0	422,149,325	+ 4.8	28
1963	128,924,165	+10.2	458,928,175	+ 8.7	28
1964	139,361,204	+ 8.1	486,997,952	+ 6.1	29
1965	149,236,013	+ 7.1	512,088,263	+ 5.2	29

WEST VIRGINIA AND UNITED STATES COAL PRODUCTION - TONS

1920 - 1980

(Continued)

Year	West Virginia	% Change in Production Over Year - W. Va.	United States	% Change in Production Over Year - U. S.	W. Va. % of Total Production U. S.
1966	148,826,592	- .3	533,881,210	+ 4.3	28
1967	152,461,567	+ 2.4	552,626,000	+ 3.5	28
1968	145,113,550	- 5.1	545,245,000	- 1.4	27
1969	139,315,720	- 4.2	560,505,000	+ 2.8	25
1970	143,132,284	+ 2.7	602,932,000	+ 7.6	24
1971	118,317,785	-21.0	552,192,000	- 9.2	21
1972	122,856,378	+ 3.8	595,386,000	+ 7.8	21
1973	115,239,146	- 6.6	591,738,000	- .6	19
1974	101,713,580	-13.3	603,406,000	+ 2.0	17
1975	109,048,898	+ 7.8	648,438,000	+ 7.0	17
1976	108,793,594	- .2	678,685,000	+ 4.5	16
1977	95,405,977	-14.0	688,575,000	+ 1.5	14
1978	84,697,048	-11.3	670,164,000	- 2.7	12
1979	112,380,883	+32.6	781,134,000	+16.5	14
1980	121,583,762	+ 8.2	835,400,000	+ 6.9	14

Sources: West Virginia Coal Association, Coal Facts 1980.
Monthly Energy Review, April 1980.
West Virginia Department of Mines, Annual Report.

RECAPITULATION OF WEST VIRGINIA COAL PRODUCTION AND EMPLOYMENT BY COUNTY

COUNTY	UNDERGROUND				SURFACE				GRAND TOTALS			
	Production	Companies	Mines	Employees	Production	Companies	Mines	Employees	Production	Companies	Mines	Employees
Barbour	1,701,403	10	18	1,180	1,958,394	26	61	727	3,659,797	36	79	1,907
Boone	11,004,047	42	94	5,382	2,838,478	17	47	851	13,842,525	59	141	6,233
Braxton	366,513	7	11	108	93,004	7	13	61	459,517	14	24	169
Brooke	565,892	4	4	289	283,040	8	13	71	848,932	12	17	360
Cabell	-	1	1	-	-	-	-	-	-	1	1	-
Clay	29,387	8	12	52	130,954	4	9	72	160,341	12	21	124
Fayette	1,582,480	24	41	1,339	659,608	27	67	412	2,242,088	51	108	1,751
Gilmer	25,307	1	4	20	45,516	4	4	29	70,823	5	8	49
Grant	2,017,466	2	7	1,118	430,235	6	23	107	2,447,701	8	30	1,225
Greenbrier	309,081	16	27	190	470,851	12	30	177	779,932	28	57	367
Harrison	2,507,975	13	20	893	914,079	33	63	304	3,422,054	46	83	1,197
Kanawha	5,710,721	22	71	3,572	3,053,704	15	60	923	8,764,425	37	131	4,495
Lewis	206,856	6	10	86	603,945	15	33	238	810,801	21	43	324
Lincoln	210,834	1	2	152	-	-	-	-	210,834	1	2	152
Logan	8,432,109	73	172	3,754	2,322,034	16	43	786	10,754,143	89	215	4,540
Marion	5,311,215	7	10	2,603	27,445	5	5	31	5,338,660	12	15	2,634
Marshall	5,101,386	2	4	1,475	-	-	-	-	5,101,386	2	4	1,475
Mason	-	1	1	7	644	1	1	2	644	2	2	9
McDowell	9,417,485	97	211	5,555	743,756	16	41	259	10,161,241	113	252	5,814
Mercer	716,084	6	14	491	29,661	2	4	19	745,745	8	18	510
Mineral	15,394	1	1	22	357,261	5	15	86	372,655	6	18	108
Mingo	4,592,321	39	67	1,528	1,109,945	9	18	289	5,702,266	48	85	1,817
Monongalia	11,429,279	22	39	3,435	1,335,501	15	34	272	12,764,780	37	73	3,707
Nicholas	4,019,518	34	61	2,198	1,494,204	27	77	623	5,513,722	61	138	2,821
Ohio	1,086,501	1	2	615	282,402	2	3	28	1,368,903	3	5	643
Pleasants	-	-	-	-	-	1	1	1	-	1	1	1
Preston	1,507,980	23	33	364	1,301,058	33	75	466	2,809,038	56	108	830
Putnam	-	1	1	3	-	-	-	-	-	1	1	3
Raleigh	6,163,110	40	80	3,748	674,954	17	38	377	6,838,064	57	118	4,125
Randolph	808,087	17	35	469	429,002	15	31	176	1,237,089	32	53	65
Summers	-	1	1	-	-	1	1	-	-	2	2	-
Taylor	-	1	1	-	65,583	5	7	29	65,583	6	8	29
Tucker	-	-	-	-	185,356	2	29	65	185,356	2	29	65
Upshur	1,345,784	9	13	521	2,403,956	23	40	733	3,749,740	32	53	1,254
Wayne	406,216	3	3	261	-	-	-	-	406,216	3	3	261
Webster	199,649	26	33	188	419,279	15	28	131	618,928	41	61	319
Wyoming	9,618,900	83	165	5,359	510,933	10	17	100	10,219,833	93	182	5,539
TOTALS	96,408,980	644	1,269	46,977	25,174,782	394	931	8,525	121,583,762	1,038	2,200	55,502

Source: West Virginia Department of Mines - 1980 Annual Report

METHOD OF WEST VIRGINIA COAL PRODUCTION

ALL TYPES

	1965	1966	1967	1968	1969	1970	1971	1972
Mechanically Loaded	67,613,837	66,585,027	66,407,038	59,830,551	50,773,128	45,667,100	34,393,187	35,102,421
Continuous Miner	56,464,780	59,506,184	64,489,829	65,349,424	66,725,609	68,607,266	57,285,197	64,958,113
Hand Loaded Conveyors	970,486	862,078	561,157	431,149	989,332	582,987	157,819	223,781
Hand Loaded Cars	9,203,241	5,899,116	3,991,312	2,798,965	1,960,151	1,125,880	556,840	737,380
Underground Total	134,252,344	132,852,405	135,449,336	128,410,089	120,448,220	115,983,233	92,403,043	101,041,695
Surface	11,002,563	11,111,821	11,759,301	12,218,676	14,547,427	22,162,630	22,359,672	19,122,553
Auger	3,981,106	4,862,366	5,252,930	4,484,785	4,320,073	4,986,421	3,355,070	2,692,130
Outside Total	14,983,669	15,974,187	17,012,231	16,703,461	18,867,500	27,149,051	25,914,742	21,814,683
Grand Total	149,236,013	148,826,592	152,461,567	145,113,550	139,315,720	143,132,284	118,317,785	122,856,378

METHOD OF WEST VIRGINIA COAL PRODUCTION

(Continued)

	1973	1974	1975	1976	1977	1978	1979	1980
Mechanically Loaded	31,653,996	22,337,125	22,148,613	19,490,725	14,685,681	11,750,252	15,200,387	25,301,431
Continuous Miner	63,292,978	59,762,491	66,176,282	68,145,463	59,242,603	53,547,369	75,993,267	71,068,716
Hand Loaded Conveyors	327,497	----	----	----	----	----	----	----
Hand Loaded Cars	173,419	86,573	89,925	175,090	101,881	58,966	45,964	38,833
Underground Total	95,447,890	82,186,189	88,414,820	87,811,278	74,030,165	65,356,587	91,239,618	96,408,980
Surface	17,575,203	19,527,391	20,634,078	20,982,316	21,375,812	19,340,461	21,141,265	25,174,782
Auger	2,216,053	----	----	----	----	----	----	----
Outside Total	19,791,256	19,527,391	20,634,078	20,982,316	21,375,812	19,340,461	21,141,265	25,174,782
Grand Total	115,239,146	101,713,580	109,048,898	108,793,594	95,405,977	84,697,048	111,238,088	121,583,762

Source: West Virginia Department of Mines, Annual Reports

Note: Auger Production has been combined with Surface Mined Production for 1974-1980.

SURFACE MINING PERMITS ISSUED IN WEST VIRGINIA
1967 - 1980

Year	Number of Permits	Acreage Involved
1967	94 (6 mo.)	4,150.31 acres
1968	336	13,434.85 acres
1969	400	15,710.55 acres
1970	616	31,802.39 acres
1971	343	30,000.34 acres
1972	246	24,508.13 acres
1973	241	20,586.77 acres
1974	255	18,919.49 acres
1975	272	16,965.50 acres
1976	278	22,249.25 acres
1977	214	16,402.65 acres
1978	201	17,407.31 acres
1979	151	15,040.40 acres
1980	137	15,520.94 acres
TOTAL	3,784	262,698.88 acres

RECLAMATION OF SURFACE MINED ACREAGE 1961 - 1980
(In Acres)

Year	Soil Conservation Districts	Operator	Special Reclamation and Bond Forfeiture	Total
1961	878.00			878.00
1962	2,471.08	600.00		3,071.08
1963	2,574.05	460.00		3,034.05
1964	2,373.70	605.00	25.30	3,004.00
1965	3,668.10	901.00	786.60	5,335.70
1966	3,213.20	690.50	2,753.57	6,657.20
1967	4,100.36	740.00	2,552.68	7,303.04
1968	8,956.37	9,054.86	1,199.87	19,918.00
1969	8,253.11	4,463.41	4,400.88	17,117.40
1970	5,355.88	5,985.72	1,903.87	13,245.47
1971	5,352.92	12,321.01	2,695.76	20,369.69
1972	3,665.15	20,052.50	3,604,87	27,332.52
1973	1,239.76	19,982.47	4,110.28	25,332.51
1974	1,116.33	17,387.33	2,114.13	20,617.79
1975	664.05	13,895.16	981.00	15,540.21
1976	1,129.80	15,919.50	894.40	17,943.70
1977	600.50	14,553.02	724.00	15,877.52
1978	790.50	10,949.22	701.45	11,971.17
1979	1,103.00	10,801.00	942.00	11,905.00
1980	825.10	12,888.11	906.00	14,619.21

Source: Department of Natural Resources, Reclamation Division Status Report, December 1980

TOP TEN COAL PRODUCING COUNTIES IN WEST VIRGINIA

	1980	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970	1969	1968	1967	1966	1965
1.	Boone	2	2	3	2	3	3	3	4	5	6	6	7	7	6	8
2.	Monongalia	1	1	1	1	1	1	2	2	2	4	5	6	6	9	6
3.	Logan	6	3	4	5	5	6	6	6	4	2	2	2	2	1	2
4.	McDowell	3	5	2	3	2	2	1	1	1	1	1	1	1	2	1
5.	Wyoming	4	7	5	4	4	4	4	3	3	3	3	3	3	3	3
6.	Kanawha	5	4	6	6	6	5	5	5	6	5	4	5	5	5	5
7.	Raleigh	7	6	7	7	7	8	8	8	7	7	8	8	8	7	7
8.	Mingo	11	13	12	12	11	10	14	14	14	14	13	12	12	12	12
9.	Nicholas	10	8	9	9	8	7	10	10	10	10	10	9	9	8	10
10.	Marion	9	10	8	8	9	13	7	7	8	8	7	4	4	4	4

LEADING COAL PRODUCERS IN WEST VIRGINIA FOR THE YEAR 1980
(Does Not Include Affiliated Companies)
In Tons

1.	CONSOLIDATION COAL COMPANY - Harrison, Marion, Marshall, McDowell, Mercer, Monongalia, Raleigh, Wyoming Counties.	22,578,706	S
2.	EASTERN ASSOCIATED COAL CORPORATION - Boone, Marion, McDowell, Monongalia, Raleigh, Wyoming Counties.	8,848,870	S
3.	ISLAND CREEK COAL COMPANY - Boone, Grant, Logan, Nicholas, Preston, Upshur, Wyoming Counties	4,240,073	S
4.	UNITED STATES STEEL CORPORATION - McDowell, Mingo, Wyoming Counties	4,229,703	
5.	ARMCO, INCORPORATED - Boone, Fayette, Raleigh, Wyoming Counties. .	3,694,379	S
6.	VALLEY CAMP COAL COMPANY, THE - Kanawha, Marshall, Ohio Counties .	3,222,558	S
7.	BETHLEHEM MINES CORPORATION - Barbour, Boone, Kanawha, Marion, Nicholas, Raleigh, Upshur Counties	2,732,260	
8.	CARBON FUEL COMPANY - Boone, Fayette Kanawha Counties.	2,196,593	S
9.	WESTMORELAND COAL COMPANY - Boone, Greenbrier, Logan, Nicholas, Raleigh, Wyoming Counties.	2,065,956	S
10.	AMHERST COAL COMPANY - Logan County.	1,913,129	S
11.	CANNELTON INDUSTRIES, INC. - Boone, Fayette, Kanawha, McDowell Counties	1,864,765	S
12.	CEDAR COAL COMPANY - Boone, Kanawha Counties	1,795,579	S
13.	ELKAY MINING COMPANY - Logan County.	1,626,523	S
14.	SOUTHERN APPALACHIAN COAL COMPANY - Boone, Kanawha, Lincoln Counties	1,397,406	S
15.	KING KNOB COAL COMPANY, INC. - Barbour, Harrison, Monongalia Counties	1,246,953	S
16.	SEWELL COAL COMPANY (PITTSTON) - Fayette, Greenbrier, Nicholas Counties	1,238,070	S
17.	SOUTHERN OHIO COAL COMPANY - Marion County	1,182,982	
18.	BUFFALO MINING COMPANY - Logan, Wayne, Wyoming Counties.	1,181,850	S
19.	HOBET MINING AND CONSTRUCTION COMPANY, INC. - Boone, Nicholas, Logan Counties	1,181,206	S
20.	BECKLEY COAL MINING COMPANY - Raleigh County	1,097,199	

S - Includes Surface Production

* Source: West Virginia Coal Association, "Coal Facts 1981."

WEST VIRGINIA COAL EMPLOYMENT

Year	Employment	Year	Employment
1920	97,426	1950	119,121
1921	116,726	1951	111,562
1922	107,709	1952	100,862
1923	121,280	1953	84,093
1924	115,964	1954	64,849
1925	111,708	1955	64,321
1926	120,638	1956	68,318
1927	119,618	1957	66,792
1928	112,751	1958	55,065
1929	107,393	1959	52,352
1930	107,832	1960	48,696
1931	97,953	1961	42,557
1932	86,829	1962	43,456
1933	95,367	1963	44,854
1934	106,590	1964	44,205
1935	109,779	1965	44,885
1936	111,625	1966	43,344
1937	115,052	1967	42,742
1938	103,735	1968	41,573
1939	104,022	1969	41,941
1940	130,457	1970	45,261
1941	112,875	1971	48,858
1942	112,817	1972	48,190
1943	105,585	1973	45,041
1944	103,146	1974	46,026
1945	97,380	1975	55,256
1946	102,393	1976	59,802
1947	116,421	1977	61,815
1948	125,669	1978	62,982
1949	121,121	1979	58,565
		1980	55,502

Source: West Virginia Department of Mines

WEST VIRGINIA COAL INDUSTRY
RECAPITULATION OF PRODUCTION, EMPLOYMENT, PRODUCTIVITY AND TOTAL COMPANIES

Underground Mines

	1965	1966	1967	1968	1969	1970
Production	134,252,344	132,852,345	135,449,336	128,410,089	120,448,220	115,983,233
Number of Companies	1,230	1,113	944	812	699	617
Number of Mines	1,709	1,608	1,352	1,198	1,028	900
Number of Employees	42,008	40,710	39,586	38,155	38,290	39,747
Total Worker Days	8,280,584	8,348,178	8,395,403	8,024,131	7,934,095	8,605,353
Average Days Per Worker	197	205	212	210	207	217
Tons Mined Per Day	684,491	630,666	629,154	605,325	600,722	544,205
Tons Per Worker Per Day						
*Large Mines	17.0	16.4	16.4	16.2	15.3	13.4
**Small Mines	9.8	10.8	11.3	12.1	12.9	13.3
Tons Per Worker Per Year						
*Large Mines	3,628	3,643	3,761	3,646	6,347	3,041
**Small Mines	1,125	1,288	1,238	1,327	1,445	1,523

* Large Mines - Employment of fifteen workers or more.
** Small Mines - Employment of fourteen workers or less.

WEST VIRGINIA COAL INDUSTRY
RECAPITULATION OF PRODUCTION, EMPLOYMENT, PRODUCTIVITY AND TOTAL COMPANIES
(Continued)

Underground Mines

	1971	1972	1973	1974	1975	1976
Production	92,403,043	101,041,695	95,447,890	82,229,554	88,414,820	87,811,278
Number of Companies	493	398	360	376	473	802
Number of Mines	752	677	621	637	859	903
Number of Employees	42,699	42,088	40,154	41,750	48,293	57,771
Total Worker Days	8,026,883	9,192,329	8,922,378	8,814,148	11,760,063	12,313,639
Average Days Per Worker	188	218	222	211	244	238
Tons Mined Per Day	452,570	478,234	439,424	531,786	613,991	717,236
Tons Per Worker Per Day				12.7***	14.6***	15.7***
*Large Mines	11.4	10.9	10.6			
**Small Mines	12.3	13.0	14.7			
Tons Per Worker Per Year				2,688***	2,115***	1,696***
*Large Mines	2,268	2,444	2,412			
**Small Mines	1,190	1,401	1,599			

* Large Mines - Employment of fifteen workers or more.
** Small Mines - Employment of fourteen workers or less.
*** Data no longer differentiates between large and small mines.

WEST VIRGINIA COAL INDUSTRY
RECAPITULATION OF PRODUCTION, EMPLOYMENT, PRODUCTIVITY AND TOTAL COMPANIES
(Continued)

Underground Mines

	1977	1978	1979	1980
Production	74,030,165	65,356,587	91,239,618	96,408,980
Number of Companies	492	684	674	644
Number of Mines	831	1,347	1,338	1,269
Number of Employees	61,815	53,631	50,179	46,977
Total Worker Days	10,607,796	8,337,372	10,391,783	10,457,272
Average Days Per Worker	201	155	217	223
Tons Mined Per Day	653,127	420,303	442,653	466,266
Tons Per Worker Per Day	14.5***	9.2***	9.7***	9.9***
*Large Mines				
**Small Mines				
Tons Per Worker Per Year	1,644***	1,432***	2,147***	2,052**
*Large Mines				
**Small Mines				

* Large Mines - Employment of fifteen men or more.
** Small Mines - Employment of fourteen men or less.
*** Data no longer differentiates between large and small mines.

Source: West Virginia Department of Mines.

SUMMARY OF EMPLOYMENT - UNDERGROUND
1980

COUNTY	Production	Number of Companies	Number of Mines	Number of Employees	Total Man Days Worked	Average Days Per Man	Tons Mined Per Day	Tons Per Man Per Day	Tons Per Man Per Year
Barbour	1,701,403	10	18	1,180	266,577	226	7,708	6.5	1,442
Boone	11,004,047	42	94	5,382	1,155,549	215	49,384	9.1	2,045
Braxton	366,513	7	11	108	21,899	203	1,752	16.2	3,394
Brooke	565,892	4	4	289	67,422	233	2,378	8.2	1,958
Cabell	-	1	1	-	-	-	-	-	-
Clay	29,387	8	12	52	4,749	91	347	6.7	565
Fayette	1,582,480	24	41	1,339	226,577	169	10,286	7.6	1,182
Gilmer	25,307	1	4	20	2,678	134	145	7.2	1,265
Grant	2,017,466	2	7	1,118	265,577	237	8,354	7.4	1,804
Greenbrier	309,081	16	27	190	29,320	154	2,332	12.2	1,627
Harrison	2,507,975	13	20	893	195,452	219	11,898	13.3	2,808
Kanawha	5,710,721	22	71	3,572	814,521	228	26,952	7.5	1,599
Lewis	206,856	6	10	86	16,283	189	792	9.2	2,405
Lincoln	210,834	1	2	152	34,568	227	1,065	7.0	1,387
Logan	8,[illegible]2,109	73	172	3,754	835,292	222	42,886	11.4	2,246
Marion	5,311,215	7	10	2,603	625,205	240	23,662	9.0	2,040
Marshall	5,101,386	2	4	1,475	373,207	253	22,013	15.0	3,458
Mason	-	1	1	7	1,603	229	-	-	-
McDowell	9,417,485	97	211	5,555	1,284,719	231	51,223	9.2	1,695
Mercer	716,084	6	14	491	113,228	231	4,064	8.2	1,458
Mineral	15,394	1	1	22	6,119	278	55	2.5	700
Mingo	4,592,321	39	67	1,528	353,762	231	20,965	13.7	3,005
Monongalia	11,429,279	22	39	3,435	755,528	220	48,810	14.2	3,327
Nicholas	4,019,518	34	61	2,198	499,268	227	22,365	10.1	1,829
Ohio	1,086,501	1	2	615	96,723	157	5,889	9.5	1,767
Preston	1,507,980	23	33	364	79,247	218	6,409	17.6	4,143
Putnam	-	1	1	3	-	-	-	-	-
Raleigh	6,163,110	40	80	3,748	832,266	222	28,641	7.6	1,644
Randolph	808,087	17	35	469	81,814	174	4,415	9.4	1,723
Summers	-	1	1	-	-	-	-	-	-
Taylor	-	1	1	-	-	-	-	-	-
Upshur	1,345,784	9	13	521	131,962	253	5,786	11.1	2,583
Wayne	406,216	3	3	261	67,953	260	1,641	6.2	1,556
Webster	199,649	26	33	188	16,296	87	1,726	9.1	1,062
Wyoming	9,618,900	83	165	5,359	1,181,908	220	52,323	9.7	1,795
TOTALS	96,408,980	644	1,269	46,977	10,457,272	223	466,266	9.9	2,052

Source: West Virginia Department of Mines

WEST VIRGINIA COAL INDUSTRY
RECAPITULATION OF PRODUCTION, EMPLOYMENT, PRODUCTIVITY AND TOTAL COMPANIES

Surface Mines

	1965	1966	1967	1968	1969	1970
Production	14,983,669	15,974,187	17,012,231	16,703,461	18,867,500	27,149,051
Number of Companies	281	311	246	244	243	331
Number of Operations	313	340	290	318	322	450
Number of Employees	2,877	2,634	3,156	3,418	3,651	5,514
Total Worker Days	448,826	483,696	525,371	507,418	522,755	775,799
Average Days Per Worker	156	183	166	148	143	140
Tons Mined Per Day	99,805	92,473	111,207	118,912	137,039	201,155
Tons Per Worker Per Day						
Surface Mines	31.2	30.3	29.6	31.2	34.5	34.2
Auger Mines	41.3	41.2	40.8	38.4	42.4	38.6
Tons Per Worker Per Year						
Surface Mines	5,038	6,058	5,158	4,895	5,461	5,253
Auger Mines	5,786	6,078	5,996	4,880	4,377	3,851

WEST VIRGINIA COAL INDUSTRY
RECAPITULATION OF PRODUCTION, EMPLOYMENT, PRODUCTIVITY AND TOTAL COMPANIES
(Continued)

Surface Mines

	1971	1972	1973	1974	1975	1976
Production	25,914,742	21,814,683	19,791,256	19,868,408	20,634,078	20,982,316
Number of Companies	335	301	261	200	278	467
Number of Operations	476	653	521	352	502	504
Number of Employees	6,911	6,092	4,882	4,432	6,963	8,031
Total Worker Days	897,803	821,421	716,253	756,789	1,122,521	1,204,710
Average Days Per Worker	130	135	147	171	161	150
Tons Mined Per Day	206,265	183,780	138,712	163,832	171,149	166,413
Tons Per Worker Per Day				25.5*	26.6*	27.8*
Surface Mines	28.6	26.0	27.2			
Auger Mines	30.5	30.4	31.2			
Tons Per Worker Per Year				4,361*	3,210*	3,167*
Surface Mines	3,970	3,823	4,298			
Auger Mines	2,780	2,470	2,795			

*Note: Data no longer differentiates between auger and surface mining.

WEST VIRGINIA COAL INDUSTRY
RECAPITULATION OF PRODUCTION, EMPLOYMENT, PRODUCTIVITY AND TOTAL COMPANIES
(Continued)

Surface Mines

	1977	1978	1979	1980
Production	21,375,812	19,340,461	21,141,265	25,174,782
Number of Companies	305	404	455	394
Number of Operations	509	903	11,015	931
Number of Employees	9,283	9,351	8,386	8,525
Total Worker Days	1,199,156	1,198,778	1,246,542	1,422,104
Average Days Per Worker	129	128	148	167
Tons Mined Per Day	164,176	147,897	146,043	160,832
Tons Per Worker Per Day	19.9*	17.6*	19.4*	18.8*
Surface Mines				
Auger Mines				
Tons Per Worker Per Year	3,210*	2,302*	2,821*	2,953*
Surface Mines				
Auger Mines				

Source: West Virginia Department of Mines, Annual Report.

*Note: Data no longer differentiates between Auger and Surface Mining.

SUMMARY OF EMPLOYMENT - SURFACE MINES
1980

COUNTY	Production	Number of Companies	Number of Mines	Number of Employees	Total Man Days Worked	Average Days Per Man	Tons Mined Per Day	Tons Per Man Per Day	Tons Per Man Per Year
Barbour	1,958,394	26	61	727	105,649	145	13,500	18.5	2,694
Boone	2,838,478	17	47	851	145,341	171	20,027	23.5	3,335
Braxton	93,004	7	13	61	5,003	82	1,501	24.6	1,525
Brooke	283,040	8	13	71	14,038	198	1,818	25.6	3,986
Clay	130,954	4	9	72	11,543	160	979	13.6	1,819
Fayette	659,608	27	67	412	38,139	93	6,836	16.6	1,601
Gilmer	45,516	4	4	29	3,254	112	577	19.9	1,569
Grant	430,235	6	23	107	16,985	159	2,425	22.6	4,021
Greenbrier	470,851	12	30	177	35,103	198	2,300	12.9	2,660
Harrison	914,079	33	63	304	41,178	135	8,473	27.8	3,007
Kanawha	3,053,704	15	60	923	165,103	179	17,601	19.0	3,308
Lewis	603,945	15	33	238	34,095	143	5,352	22.5	2,537
Logan	2,322,034	16	43	786	173,287	220	12,282	15.6	2,954
Marion	27,445	5	5	31	2,111	68	370	11.9	885
Mason	644	1	1	2	284	142	7	3.5	322
McDowell	743,756	16	41	259	47,480	183	4,471	17.2	2,872
Mercer	29,661	2	4	19	2,626	138	270	14.2	1,561
Mineral	357,261	5	15	86	18,130	211	1,478	17.1	4,154
Mingo	1,109,945	9	18	289	54,952	190	6,417	22.2	3,841
Monongalia	1,335,501	15	34	272	51,824	190	6,780	24.9	4,909
Nicholas	1,494,204	27	77	623	105,512	169	9,656	15.5	2,398
Ohio	282,402	2	3	28	6,841	244	1,569	56.0	10,085
Pleasants	-	1	1	1	24	24	-	-	-
Preston	1,301,058	33	75	466	77,133	165	9,173	19.6	2,792
Raleigh	674,954	17	38	377	42,707	113	4,499	11.9	1,790
Randolph	429,002	15	31	176	38,320	218	2,167	12.3	2,437
Summers	-	1	1	-	-	-	-	-	-
Taylor	65,583	5	7	29	5,380	185	398	13.7	2,261
Tucker	185,356	2	29	65	10,104	155	1,468	22.5	2,852
Upshur	2,403,956	23	40	733	106,008	145	13,560	18.5	3,280
Webster	419,279	15	28	131	22,931	175	2,313	17.6	3,201
Wyoming	510,933	10	17	180	41,019	228	2,565	14.2	2,838
TOTALS	25,174,782	394	931	8,525	1,422,104	167	160,832	18.8	2,953

Source: West Virginia Department of Mines

RECAPITULATION OF WEST VIRGINIA COAL PRODUCTION AND EMPLOYMENT BY COUNTY

COUNTY	UNDERGROUND				SURFACE				GRAND TOTALS			
	Production	Companies	Mines	Employees	Production	Companies	Mines	Employees	Production	Companies	Mines	Employees
Barbour	1,701,403	10	18	1,180	1,958,394	26	61	727	3,659,797	36	79	1,907
Boone	11,004,047	42	94	5,382	2,838,478	17	47	851	13,842,525	59	141	6,233
Braxton	366,513	7	11	108	93,004	7	13	61	459,517	14	24	169
Brooke	565,892	4	4	289	283,040	8	13	71	848,932	12	17	360
Cabell	-	1	1	-	-	-	-	-	-	1	1	-
Clay	29,387	8	12	52	130,954	4	9	72	160,341	12	21	124
Fayette	1,582,480	24	41	1,339	659,608	27	67	412	2,242,088	51	108	1,751
Gilmer	25,307	1	4	20	45,516	4	4	29	70,823	5	8	49
Grant	2,017,466	2	7	1,118	430,235	6	23	107	2,447,701	8	30	1,225
Greenbrier	309,081	16	27	190	470,851	12	30	177	779,932	28	57	367
Harrison	2,507,975	13	20	893	914,079	33	63	304	3,422,054	46	83	1,197
Kanawha	5,710,721	22	71	3,572	3,053,704	15	60	923	8,764,425	37	131	4,495
Lewis	206,856	6	10	86	603,945	15	33	238	810,801	21	43	324
Lincoln	210,834	1	2	152	-	-	-	-	210,834	1	2	152
Logan	8,432,109	73	172	3,754	2,322,034	16	43	786	10,754,143	89	215	4,540
Marion	5,311,215	7	10	2,603	27,445	5	5	31	5,338,660	12	15	2,634
Marshall	5,101,386	2	4	1,475	-	-	-	-	5,101,386	2	4	1,475
Mason	-	1	1	7	644	1	1	2	644	2	2	9
McDowell	9,417,485	97	211	5,555	743,756	16	41	259	10,161,241	113	252	5,814
Mercer	716,084	6	14	491	29,661	2	4	19	745,745	8	18	510
Mineral	15,394	1	1	22	357,261	5	15	86	372,655	6	18	108
Mingo	4,592,321	39	67	1,528	1,109,945	9	18	289	5,702,266	48	85	1,817
Monongalia	11,429,279	22	39	3,435	1,335,501	15	34	272	12,764,780	37	73	3,707
Nicholas	4,019,518	34	61	2,198	1,494,204	27	77	623	5,513,722	61	138	2,821
Ohio	1,086,501	1	2	615	282,402	2	3	28	1,368,903	3	5	643
Pleasants	-	-	-	-	-	1	1	1	-	1	1	1
Preston	1,507,980	23	33	364	1,301,058	33	75	466	2,809,038	56	108	830
Putnam	-	1	1	3	-	-	-	-	-	1	1	3
Raleigh	6,163,110	40	80	3,748	674,954	17	38	377	6,838,064	57	118	4,125
Randolph	808,087	17	35	469	429,002	15	31	176	1,237,089	32	53	65
Summers	-	1	1	-	-	1	1	-	-	2	2	-
Taylor	-	1	1	-	65,583	5	7	29	65,583	6	8	29
Tucker	-	-	-	-	185,356	2	29	65	185,356	2	29	65
Upshur	1,345,784	9	13	521	2,403,956	23	40	733	3,749,740	32	53	1,254
Wayne	406,216	3	3	261	-	-	-	-	406,216	3	3	261
Webster	199,649	26	33	188	419,279	15	28	131	618,928	41	61	319
Wyoming	9,618,900	83	165	5,359	510,933	10	17	100	10,219,833	93	182	5,539
TOTALS	96,408,980	644	1,269	46,977	25,174,782	394	931	8,525	121,583,762	1,038	2,200	55,502

Source: West Virginia Department of Mines - 1980 Annual Report

WEST VIRGINIA COAL MINING INJURIES
By County - 1980

County	Underground		Surface		Total	
	Fatal	Non-Fatal	Fatal	Non-Fatal	Fatal	Non-Fatal
Barbour	-	146	-	5	-	151
Boone	9	785	-	43	9	828
Braxton	-	5	-	-	-	5
Brooke	-	35	-	4	-	39
Cabell	-	-	-	-	-	-
Clay	-	3	-	1	-	4
Fayette	-	238	-	21	-	259
Gilmer	-	-	-	1	-	1
Grant	-	119	-	2	-	121
Greenbrier	-	13	-	14	-	27
Harrison	-	57	-	1	-	58
Kanawha	2	565	1	46	3	611
Lewis	-	4	-	1	-	5
Lincoln	-	26	-	-	-	26
Logan	1	625	-	89	1	714
McDowell	2	349	-	7	2	356
Marion	1	256	-	-	1	256
Marshall	1	141	-	-	1	141
Mason	-	-	-	-	-	-
Mercer	2	12	-	-	2	12
Mineral	-	2	-	-	-	2
Mingo	2	127	-	8	2	135
Monongalia	2	253	-	13	2	266
Nicholas	-	382	-	17	-	389
Ohio	-	68	-	-	-	68
Pleasants	-	-	-	-	-	-
Preston	-	20	-	7	-	27
Raleigh	2	589	-	4	2	593
Randolph	2	12	-	9	2	21
Summers	-	-	-	-	-	-
Taylor	-	-	-	-	-	-
Tucker	-	-	-	-	-	-
Upshur	1	39	-	14	1	53
Wayne	1	65	-	-	1	65
Webster	-	13	-	5	-	18
Wyoming	3	462	-	-	3	462
Total	31	5,411	1	302	32	5,713

Source: West Virginia Department of Mines - Annual Report

WEST VIRGINIA COAL MINING FATAL ACCIDENTS AND THEIR CAUSES
FROM 1934 TO 1980 (INCLUSIVE)

Causes	1934	1935	1936	1937	1938	1939	1940	1941
Falls of Roof & Coal	167	173	209	186	140	173	171	169
Haulage	63	86	77	99	56	48	69	73
Gas & Dust Explosions	5	6	19	23	11	6	102	12
Explosives	3	2	4	6	5	3	5	4
All Other Causes	40	44	28	53	27	36	29	32
TOTALS	278	311	337	367	239	266	376	290

Causes	1942	1943	1944	1945	1946	1947	1948	1949
Falls of Roof & Coal	165	186	157	149	131	130	161	81
Haulage	86	65	91	74	68	75	60	44
Gas & Dust Explosions	82	11	17	1	15	1	3	--
Explosives	3	6	4	7	3	5	6	6
All Other Causes	44	57	44	38	26	43	47	20
TOTALS	380	325	313	269	243	254	227	151

Causes	1950	1951	1952	1953	1954	1955	1956	1957
Falls of Roof & Coal	97	79	96	72	68	72	80	68
Haulage	54	44	41	30	21	26	39	28
Gas & Dust Explosions	--	34	1	1	18	3	1	48
Explosives	6	--	2	2	3	2	4	--
All Other Causes	28	34	23	8	19	22	23	40
TOTALS	185	191	163	113	129	125	147	184

WEST VIRGINIA COAL MINING FATAL ACCIDENTS AND THEIR CAUSES
FROM 1934 TO 1980 (INCLUSIVE)
(Continued)

Causes	1958	1959	1960	1961	1962	1963	1964	1965
Falls of Roof & Coal	61	51	66	41	39	55	48	53
Haulage	21	19	12	14	15	23	15	10
Gas & Dust Explosions	39	1	3	3	3	22	3	4
Explosives	1	--	--	--	2	2	--	--
All Other Causes	26	15	34	26	18	24	19	26
TOTALS	148	86	115	84	77	126	85	93

Causes	1966	1967	1968	1969	1970	1971	1972	1973
Falls of Roof & Coal	40	28	30	27	29	16	13	19
Haulage	15	10	15	17	11	9	11	9
Gas & Dust Explosions	8	2	79	--	1	--	5	--
Explosives	--	--	1	--	1	--	1	--
All Other Causes	18	20	27	25	21	16	18	13
TOTALS	81	60	152	69	63	41	48	41

Causes	1974	1975	1976	1977	1978	1979	1980
Falls of Roof & Coal	16	12	7	13	11	16	7
Haulage	5	11	5	4	2	8	3
Gas & Dust Explosions	--	--	--	--	--	--	5
Explosives	--	--	--	2	1	--	--
All Other Causes	15	11	20	9	15	11	18
TOTALS	36	34	32	28	29	35	33

Source: West Virginia Department of Mines, Annual Reports

DISTRIBUTION OF WEST VIRGINIA COAL
BY MODE OF TRANSPORTATION AND METHOD OF PRODUCTION 1963-1980

	Coal Shipped by Railroad	Coal Shipped by River	Coal Shipped by Truck	Local Trade and Stocked
1963				
Underground Mines	93,498,266	9,773,246	7,179,496	2,091,558
Surface Mines	7,806,194	672,675	971,683	37,319
1963 TOTAL	101,304,460	10,445,921	8,151,179	2,128,877
1964				
Underground Mines	101,122,267	10,152,245	8,493,869	2,882,863
Surface Mines	9,603,435	1,269,296	141,131	29,657
1964 TOTAL	110,725,702	11,421,541	9,905,200	2,912,520
1965				
Underground Mines	110,263,917	11,780,367	8,802,909	2,521,870
Surface Mines	11,487,984	1,759,461	1,736,224	28,045
1965 TOTAL	112,751,901	13,539,828	10,539,133	2,549,915
1966				
Underground Mines	112,747,467	10,189,609	7,450,748	2,469,100
Surface Mines	11,740,204	2,705,428	1,364,948	49,225
1966 TOTAL	124,487,671	12,895,037	8,815,696	2,518,325
1967				
Underground Mines	113,257,477	12,737,257	6,622,917	2,831,685
Surface Mines	12,179,996	1,722,839	2,568,222	83,527
1967 TOTAL	125,457,573	14,460,096	9,191,139	2,915,312
1968				
Underground Mines	105,375,039	14,186,539	5,946,161	2,580,240
Surface Mines	13,211,214	1,102,947	2,189,448	53,843
1968 TOTAL	118,586,253	15,289,486	8,135,609	2,634,083
1969				
Underground Mines	97,476,361	15,019,633	5,010,529	1,094,829
Surface Mines	14,496,070	1,501,556	2,675,524	192,291
1969 TOTAL	111,972,431	16,521,189	7,686,053	1,287,120
1970				
Underground Mines	94,422,027	17,005,933	4,558,030	449,167
Surface Mines	20,832,746	2,541,374	3,530,811	284,045
1970 TOTAL	115,254,773	19,547,307	8,088,841	733,212
1971				
Underground Mines	78,392,118	13,377,235	3,466,086	329,908
Surface Mines	20,317,420	2,492,766	2,863,378	287,029
1971 TOTAL	98,709,538	15,870,001	6,329,464	616,937
1972				
Underground Mines	81,655,703	14,879,871	3,932,998	545,388
Surface Mines	15,819,653	2,330,010	3,620,918	43,501
1972 TOTAL	97,475,356	17,209,881	7,553,916	588,889

DISTRIBUTION OF WEST VIRGINIA COAL
BY MODE OF TRANSPORTATION AND METHOD OF PRODUCTION 1963-1980
(Continued)

	Coal Shipped by Railroad	Coal Shipped by River	Coal Shipped by Truck	Local Trade and Stocked
1973				
Underground Mines	76,265,237	13,956,061	4,565,499	692,146
Surface Mines	15,310,401	1,808,108	2,689,029	27,864
1973 TOTAL	91,575,638	15,764,169	7,254,528	720,010
1974				
Underground Mines	62,477,361	12,062,955	4,329,508	2,177,821
Surface Mines	12,120,422	2,075,714	3,967,112	223
1974 TOTAL	74,597,783	14,138,669	8,296,620	2,178,044
1975				
Underground Mines	65,614,164	12,556,557	6,736,295	2,228,766
Surface Mines	13,788,051	2,381,532	4,559,775	-0-
1975 TOTAL	79,402,215	14,938,089	11,296,070	2,228,766
1976				
Underground Mines	63,660,780	12,510,472	7,602,626	1,857,035
Surface Mines	12,765,330	2,572,313	5,075,242	19,776
1976 TOTAL	76,426,110	15,082,785	12,677,868	1,876,811
1977				
Underground Mines	52,011,307	11,358,724	7,878,059	1,648,737
Surface Mines	12,500,730	2,188,366	6,501,388	384,851
1977 TOTAL	64,511,767	13,547,090	14,379,447	2,033,588
1978				
Underground Mines	44,464,545	9,504,396	7,151,744	3,449,361
Surface Mines	11,794,354	1,998,769	5,274,133	22,824
1978 TOTAL	56,258,899	11,503,155	12,425,877	3,472,185
1979				
Underground Mines	62,080,935	13,384,465	11,436,008	4,342,505
Surface Mines	9,977,711	2,615,042	7,150,320	101,865
1979 TOTAL	72,058,646	15,999,507	18,586,328	4,444,370
1980				
Underground Mines	67,136,503	12,747,044	11,955,189	3,693,696
Surface Mines	13,327,107	3,133,940	7,443,700	105,233
1980 TOTAL	80,463,610	15,880,948	19,398,889	3,798,929

Sources: West Virginia Department of Mines, Annual Reports 1963-1979.
West Virginia Coal Association, Coal Facts 1980.

AVERAGE SULFUR CONTENT OF WEST VIRGINIA COAL SHIPMENTS BY CONSUMER USE, 1977-1978

Year	Electric Utilities	Coke Plants	Other Industrial and Retail Dealers	All Other Uses[1]	Exports	Total
1977						
Quantity Shipped (000 tons)	46,259	23,543	6,330	3,796	15,505	95,433
Average Sulfur Content (%)	2.2	.8	1.5	1.1	1.0	1.6[2]
1978						
Quantity Shipped (000 tons)	41,457	22,876	5,629	2,118	13,234	85,314
Average Sulfur Content (%)	2.1	.8	1.5	1.3	1.1	1.6[2]

1. Includes railroad fuel, mine fuel, sales to mine employees, and increases in mine inventory.

2. Weighted total.

Source: U.S. Department of Energy, Energy Information Administration, "Sulfur Content in Coal Shipments, 1978," released June 1981.

WEST VIRGINIA COAL SHIPMENTS BY SULFUR LEVEL AND CONSUMER USE, 1978
(000 Tons)

Consumer Use	< 0.8	0.9-1.2	1.3-1.7	1.8-2.2	2.3-2.9	3.0-3.9	> 3.9	Total
Electric Utilities	9,327	5,531	2,689	1,733	9,760	7,140	5,277	41,457
Coke Plants	17,926	3,968	984	-	-	-	-	22,876
Other Industrial Uses and Retail Dealers	1,778	1,806	262	405	415	956	7	5,629
Export	5,776	4,781	804	-	1,872	-	-	13,234
All Other Uses	610	866	211	133	110	185	4	2,118
Total	35,417	16,952	4,950	2,271	12,157	8,281	5,288	85,314

- No data reported.

Source: U.S. Department of Energy, Energy Information Administration, "Sulfur Content in Coal Shipments in 1978," released June 1981.

COMPARISON OF UNITED STATES COAL EXPORTS TO WEST VIRGINIA COAL EXPORTS

	U.S. Coal Exports	W. Va. Coal Exports	W. Va. % Share
1973	52,870,402	31,530,000	59.6%
1974	59,926,088	28,825,000	48.1%
1975	65,668,629	31,025,000	47.2%
1976	59,405,509	27,515,000	46.3%
1977	53,687,108	23,215,000	43.2%
1978	39,825,000	18,538,000	46.6%
1979	64,800,000	30,600,000	47.3%
1980	89,882,000	44,125,000	49.2%

Source: West Virginia Coal Association, Coal Facts 1981.

U.S. EXPORTS OF METALLURGICAL COAL BY COUNTRY

(Quantity - Net Tons; Value - $000 U.S.)

Destination	January - December 1980 2/		January - December 1979	
	Net Tons	Value 3/	Net Tons	Value 3/
NORTH AMERICA				
Canada	6,277,439	$ 370,180	7,552,552	$ 434,194
Mexico	548,052	27,841	510,215	25,205
Other	44	3	87	13
Total	6,825,535	$ 398,024	8,062,854	$ 459,412
SOUTH AMERICA				
Argentina	857,887	$ 42,828	789,925	$ 39,220
Brazil	3,157,384	177,902	2,798,682	159,560
Chile	128,127	6,766	93,131	4,416
Peru	29,219	1,244	27,210	1,121
Venezuela	3,346	159	-	-
Other	-	-	6	1
Total	4,175,963	$ 228,899	3,708,954	$ 204,318
EUROPE				
European Economic Community				
Belgium/Luxenbourg 4/	3,108,350	$ 157,889	3,003,217	$ 144,447
Denmark	154,605	7,570	60,638	2,343
France	4,500,487	233,549	3,520,471	184,465
Germany (Fed. Rep.) 4/	1,708,477	88,943	1,850,193	91,965
Ireland	218,228	12,481	162,406	8,610
Italy	6,113,400	320,636	4,966,374	259,683
Netherlands 4/	2,634,873	131,528	1,861,107	98,463
United Kingdom	2,073,047	103,168	1,265,681	62,374
Total EEC	20,511,467	$1,055,764	16,690,087	$ 852,350
Albania	125,330	$ 6,307	200,136	$ 9,460
Finland	21,671	934	-	-
Gibraltar	52,600	2,727	-	-
Greece	52,774	2,461	-	-
Iceland	7,382	509	-	-
Norway	278,264	16,332	231,373	12,610
Portugal	335,975	18,424	309,819	17,490
Romania	840,903	45,526	627,617	29,061
Spain	2,339,912	118,676	1,110,007	57,149
Sweden	1,009,755	53,623	740,009	39,549
Switzerland	108,584	5,116	-	-
Yugoslavia	996,147	49,220	1,088,259	52,795
Other	-	-	71,961	3,731
Total Europe	26,780,764	$1,375,619	21,069,268	$1,074,195

U.S. EXPORTS OF METALLURGICAL COAL BY COUNTRY

(Quantity - Net Tons; Value - $000 U.S.)

(Continued)

Destination	January - December 1980 2/		January - December 1979	
	Net Tons	Value 3/	Net Tons	Value 3/
ASIA, AFRICA				
Algeria	704,782	$ 37,404	93,997	$ 4,853
Egypt	825,601	46,017	570,292	27,421
Japan	21,950,774	1,260,974	15,255,042	893,841
Korea (Rep. of)	770,216	40,480	785,699	40,913
Pakistan	26,472	1,597	-	-
Taiwan	162,832	9,908	315,094	17,698
Turkey	877,136	42,699	835,882	39,808
Other	2,621	114	897	41
GRAND TOTAL	63,102,696	$3,441,740	50,697,979	$2,762,504
Excluding Canada	56,825,257	$3,071,559	43,145,427	$2,328,310

1/ Excludes shipments to U.S. military forces.
2/ Preliminary figures.
3/ Includes transportation charges to U.S. ports of exit.
4/ Shipments as indicated in vessel manifests upon departure U.S. ports: includes tonnage for transshipment to undesignated destinations.

Note: Totals may not add due to rounding.

Source: U.S. Department of Commerce.

U.S. EXPORTS OF STEAM COAL BY COUNTRY

(Quantity - Net Tons; Value - $000 U.S.)

Destination	January - December 1980 2/		January - December 1979	
	Net Tons	Value 3/	Net Tons	Value 3/
NORTH AMERICA				
Canada	10,761,527	$ 434,662	11,605,880	$ 452,851
Dominican Republic	289	12	313	53
Mexico	79,645	4,104	48,857	2,344
Other	149	8	269	14
Total	10,841,610	$ 438,785	11,655,319	$ 455,262
SOUTH AMERICA				
Argentina	145	$ 6	-	$ -
Brazil	82,281	4,328	24,273	1,310
Chile	530,434	19,348	44,960	1,778
Venezuela	104	6	2,237	268
Other	1	4	27,713	841
Total	612,965	$ 23,691	99,183	$ 4,197
EUROPE				
European Economic Community				
Belgium Luxembourg 4/	1,367,729	$ 45,947	171,187	$ 5,001
Denmark	1,494,994	62,286	102,104	3,618
France	3,022,596	107,901	183,841	5,552
Germany (Fed. Rep.) 4/	806,715	38,785	696,375	34,078
Ireland	175,233	9,823	120,511	6,026
Italy	998,549	38,995	-	-
Netherlands 4/	1,894,863	76,886	67,780	2,753
United Kingdom	2,045,420	86,779	38,443	1,855
Total EEC	11,806,099	$ 467,402	1,380,241	$ 58,883
Finland	256,836	$ 10,952	-	$ -
Germany (Dem. Rep.)	9,121	434	48,502	$ 2,392
Greece	4,982	225	-	-
Portugal	26,960	1,537	5,286	344
Romania	455,456	15,660	-	-
Spain	1,068,836	47,163	240,577	10,699
Sweden	4,935	433	-	-
Total Europe	13,633,225	$ 543,806	1,674,606	$ 72,318

U.S. EXPORTS OF STEAM COAL BY COUNTRY

(Quantity - Net Tons; Value - $000 U.S.)

(Continued)

Destination	January - December 1980 2/		January - December 1979	
	Net Tons	Value 3/	Net Tons	Value 3/
ASIA, AFRICA & OTHER				
Egypt	-	$ -	240,381	$ 11,853
Japan	1,038,983	49,725	413,672	21,382
Korea (Rep. of)	67,897	2,988	-	-
Taiwan	584,259	22,048	959	38
Other	232	10	583	84
GRAND TOTAL	26,779,171	$1,081,054	14,084,703	$ 565,138
Excluding Canada	16,017,644	$ 646,393	2,478,823	$ 112,287

1/ Excludes shipments to U.S. military forces.
2/ Preliminary figures.
3/ Includes transportation charges to U.S. ports of exit.
4/ Shipments as indicated in vessel manifests upon departure U.S. ports: includes tonnage for transshipment to undesignated destinations.

Note: Totals may not add due to rounding.

Source: U.S. Department of Commerce.

TOTAL U.S. EXPORTS OF METALLURGICAL AND STEAM COAL BY COUNTRY
(All Bituminous Coal)

(Quantity - Net Tons; Value - $000 U.S.)

Destination	January - December 1980 2/		January - December 1979	
	Net Tons	Value 3/	Net Tons	Value 3/
NORTH AMERICA				
Canada	17,038,966	$ 804,842	19,158,432	$ 887,045
Mexico	627,697	31,945	559,072	27,549
Other	482	23	669	80
Total	17,667,145	$ 836,809	19,718,173	$ 914,674
SOUTH AMERICA				
Argentina	858,032	42,834	789,925	$ 39,220
Brazil	3,239,665	182,230	2,822,955	160,870
Chile	658,561	26,114	138,091	6,194
Peru	29,220	1,248	54,905	1,960
Venezuela	3,450	165	2,237	268
Other	-	-	24	3
Total	4,788,928	$ 252,590	3,808,137	$ 208,515
EUROPE				
European Economic Community				
Belgium/Luxembourg 4/	4,476,079	$ 203,836	3,174,404	$ 149,448
Denmark	1,649,599	69,856	162,742	5,961
France	7,523,033	341,450	3,704,312	190,017
Germany (Fed. Rep.) 4/	2,515,192	127,728	2,546,568	126,044
Ireland	393,461	22,304	282,917	14,636
Italy	7,111,949	359,631	4,966,374	259,683
Netherlands 4/	4,529,736	208,414	1,928,887	101,216
United Kingdom	4,118,467	189,947	1,304,124	64,229
Total EEC	32,317,566	$1,523,166	18,070,328	$ 911,234
Albania	125,330	$ 6,307	200,136	$ 9,460
Finland	278,507	11,886	-	-
Germany (Dem. Rep.)	9,121	435	120,463	6,123
Gibraltar	52,600	2,727	-	-
Greece	57,756	2,686	-	-
Iceland	7,382	509	-	-
Norway	278,264	16,332	231,373	12,610
Portugal	362,935	19,961	315,105	17,834
Romania	1,396,359	61,186	627,617	29,061
Spain	3,408,748	165,839	1,350,584	67,848
Sweden	1,014,690	54,056	740,009	39,549
Switzerland	108,584	5,116	-	-
Yugoslavia	996,147	49,220	1,088,259	52,795
Total Europe	40,413,989	$1,919,425	22,743,874	$1,146,514

TOTAL U.S. EXPORTS OF METALLURGICAL AND STEAM COAL BY COUNTRY
(All Bituminous Coal)

(Quantity - Net Tons; Value - $000 U.S.)

(Continued)

Destination	January - December 1980 2/		January - December 1979	
	Net Tons	Value 3/	Net Tons	Value 3/
ASIA, AFRICA				
Algeria	704,782	$ 37,404	93,997	$ 4,853
Egypt	825,601	46,017	810,673	39,274
Japan	22,989,757	1,310,699	15,668,714	915,223
Korea (Rep. of)	838,113	43,468	785,699	40,918
Pakistan	26,472	1,597	-	-
Taiwan	747,091	31,956	316,053	17,736
Turkey	877,136	42,699	835,882	39,208
Other	2,853	124	1,480	126
GRAND TOTAL	89,881,867	$4,522,794	64,782,682	$3,327,642
Excluding Canada	72,842,901	$3,717,952	45,624,250	$2,440,597

1/ Excludes shipments to U.S. military forces.
2/ Preliminary figures.
3/ Includes transportation charges to U.S. ports of exit.
4/ Shipments as indicated in vessel manifests upon departure U.S. ports: includes tonnage for transshipment to undesignated destinations.

Note: Totals may not add due to rounding.

Source: U.S. Department of Commerce

DESTINATION AND AMOUNTS OF WEST VIRGINIA COAL
SHIPPED TO ELECTRIC UTILITIES

Destination	Tonnage in 1976	1977	1978	1979	1980
Alabama	-	-	76,600	243,700	318,000
Delaware	-	-	-	12,400	195,900
Florida	-	-	-	-	10,300
Georgia	-	-	64,000	-	-
Illinois	10,000	3,000	54,000	130,000	-
Indiana	118,000	94,500	141,600	27,300	-
Kentucky	3,000	34,700	130,700	406,900	350,900
Maryland	770,000	897,100	474,000	787,000	970,000
Massachusetts	-	-	-	2,000	273,100
Michigan	4,434,500	5,022,600	3,276,800	4,572,800	3,929,000
Minnesota	900	800	-	-	-
Missouri	-	49,000	76,000	-	-
New Hampshire	740,000	959,900	587,800	1,022,000	911,000
New Jersey	1,452,100	1,460,000	1,076,200	1,317,900	1,389,800
New York	863,400	528,600	212,500	178,600	309,500
North Carolina	2,908,600	3,125,500	2,921,700	3,285,300	3,988,800
Ohio	5,369,500	5,147,000	4,979,800	7,951,700	8,227,000
Pennsylvania	5,296,600	5,007,800	3,367,000	4,778,800	3,816,600
South Carolina	3,700	56,300	89,100	30,900	33,400
Tennessee	-	-	38,300	95,700	175,500
Virginia	665,600	762,900	612,100	800,200	840,100
West Virginia	21,881,100	20,980,200	20,061,200	23,879,300	27,142,600
Wisconsin	21,500	36,100	61,700	93,800	232,800
	44,538,500	44,166,000	38,301,900	49,617,900	53,115,200

Source: DOE Annual Reports

COAL CONSUMPTION IN WEST VIRGINIA BY SECTOR

(1970 - 1980)

(Tons)

	1970	1971	1972	1973
Electric Utilities	14,329,000	16,361,000	20,582,000	22,502,000
Coke and Gas Plants	5,080,000	4,323,000	5,044,000	5,196,000
Manufacturing	4,760,000	4,586,000	4,392,000	4,364,000
Retail	226,000	239,000	271,000	243,000
Total	24,394,000	25,509,000	30,289,000	32,305,000

	1974	1975	1976	1977
Electric Utilities	24,028,000	26,336,000	28,115,000	29,050,000
Coke and Gas Plants	5,107,000	4,481,000	5,295,000	4,975,000
Manufacturing	4,322,000	3,385,000	2,960,000	2,995,000
Retail	327,000	158,000	110,000	100,000
Total	33,784,000	34,360,000	36,480,000	37,120,000

	1978	1979	1980
Electric Utilities	25,812,000	28,800,000	30,491,000
Coke and Gas Plants	3,862,000	4,400,000	3,694,000
Manufacturing	2,700,000	3,400,000	2,200,000
Retail	67,000	85,000	129,000
Total	32,441,000	36,685,000	36,514,000

Sources: U.S. Bureau of Mines - Bituminous Coal and Lignite Distribution.
U.S. Department of Energy, Energy Data Report, DOE/EIA-0125.
West Virginia Coal Association, Coal Facts 1980.

CONSUMPTION OF COAL BY ELECTRIC UTILITIES IN SELECTED STATES

	1976	1977	1978	1979	1980
Alabama	17,849,577	18,778,565	16,597,092	18,697,695	19,592,879
Delaware	847,579	780,986	863,929	887,305	941,650
Florida	6,067,946	6,780,146	7,184,157	8,154,952	8,785,312
Georgia	14,043,084	16,857,134	17,630,619	19,171,385	21,191,453
Illinois	33,520,673	33,942,790	33,492,168	34,486,860	34,610,642
Indiana	28,936,691	29,878,779	28,869,175	31,592,991	33,664,366
Kentucky	25,095,438	24,726,186	24,472,501	23,187,049	24,383,034
Maryland	5,083,177	4,422,549	4,844,946	5,284,595	5,907,779
Massachusetts	-0-	-0-	-0-	49,545	676,319
Michigan	33,520,673	21,027,658	21,494,695	23,133,536	22,150,263
Minnesota	9,947,287	12,723,875	12,117,164	11,066,363	12,609,645
Missouri	19,159,194	20,809,522	20,523,745	21,643,685	23,168,062
New Hampshire	750,914	958,885	779,388	1,079,265	1,080,149
New Jersey	2,604,180	2,580,617	2,221,981	2,208,915	2,545,389
New York	6,017,418	6,628,789	6,266,779	6,274,134	6,446,303
North Carolina	20,981,000	21,234,949	18,998,192	21,138,464	23,919,782
Ohio	49,342,115	50,507,142	49,656,353	52,074,887	48,536,801
Pennsylvania	37,446,652	36,451,090	36,638,978	41,448,294	42,446,116
South Carolina	5,550,731	6,455,065	6,495,298	6,847,567	7,926,538
Tennessee	22,361,987	21,694,464	21,621,186	20,173,177	21,678,850
Virginia	5,668,614	5,018,380	4,320,146	5,162,237	5,560,294
West Virginia	27,433,223	27,842,204	25,607,515	27,373,127	28,499,272
Wisconsin	10,870,816	11,493,614	11,415,963	12,297,033	13,229,063

Source: Department of Energy Annual Reports

PERCENTAGES OF WEST VIRGINIA COAL USED BY ELECTRIC UTILITIES BY STATE

	1976	1977	1978	1979	1980
Alabama	0	0	.4	1.3	1.6
Delaware	0	0	0	1.4	20.8
Florida	0	0	0	0	.1
Georgia	0	0	.3	0	0
Illinois	.02	0*	.1	.3	0
Indiana	.4	.3	.49	.08	0
Kentucky	.01	.1	.53	1.7	1.4
Maryland	15	20.2	9.7	14.8	16.4
Massachusetts	0	0	0	4	40.3
Michigan	13.2	23.8	15.2	19.7	17.7
Minnesota	0*	0*	0	0	0
Missouri	0	.2	.3	0	0
New Hampshire	98.5	100	75.4	94.6	84.3
New Jersey	55.7	56.7	48.4	59.6	54.6
New York	14.3	7.9	3.3	2.8	4.6
North Carolina	13.8	14.7	15.3	15.5	16.6
Ohio	10.8	10.1	10	15.2	16.9
Pennsylvania	14.1	13.7	9.1	11.2	8.9
South Carolina	.06	.8	1.3	.4	.4
Tennessee	0	0	.1	.4	.8
Virginia	11.7	15.2	14.1	15.5	15
West Virginia	79.7	75.3	78.3	87.2	95
Wisconsin	.19	.3	.5	.7	1.7

* Used less than .01% of West Virginia coal.

Source: Developed by West Virginia Fuel and Energy Office from Department of Energy Annual Reports

AVERAGE COAL PRICES, WEST VIRGINIA AND THE UNITED STATES
(1968-1980)

	West Virginia				
	Underground Mined Coal	Surface Mined Coal	Auger* Mined Coal	Average All W. Va. Coal	Average All U.S. Coal
1968	$ 5.46	$ 4.31	$ 4.06	$ 5.32	$ 4.67
1969	5.90	4.77	4.61	5.73	4.99
1970	8.70	7.06	8.34	7.93	6.26
1971	10.07	7.49	8.53	9.54	7.07
1972	10.90	7.54	7.95	10.31	7.66
1973	12.24	8.58	8.66	11.61	8.53
1974	21.76	22.46	21.74	21.65	15.75
1975	23.55	22.00	21.74	23.00	18.75

	West Virginia			
	Underground Mined Coal	Surface Mined Coal	Average All W. Va. Coal	Average All U.S. Coal
1976	$31.64	$23.86	$30.12	$19.43
1977	33.25	23.58	31.03	19.82
1978	34.45	25.70	33.15	21.78
1979	36.27	28.04	24.74	23.75
1980	39.25	31.60	37.00	26.00

* Auger Mined Coal data after 1975 is not available.

Source: U.S. Bureau of Mines and Coal Facts 81.

WEST VIRGINIA COAL RESERVES

COUNTY	riginal Mineable Reserves* Short Tons	Reported Production 1883-1980*** (Inclusive) Short Tons	Estimated Loss in Mining** Short Tons	Estimated Recoverable Reserve Short Tons
Barbour	3,585,619,298	180,581,617	180,581,617	1,612,228,032
Berkeley	-	246	246	-
Boone	8,142,970,465	370,967,957	247,311,971	4,514,814,322
Braxton	2,323,332,633	10,367,340	10,367,340	1,151,298,977
Brooke	360,000,000	93,071,393	93,071.393	86,928,607
Cabell	44,167,156	-	-	22,083,578
Calhoun	251,017,114	-	-	125,508,557
Clay	3,237,869,854	43,690,894	29,127,263	1,899,031,018
Doddridge	1,119,317,757	2,790	1,860	671,587,864
Fayette	4,420,505,039	720,666,515	480,444,343	1,931,636,509
Gilmer	1,019,245,455	13,376,298	13,376,298	496,246,429
Grant	969,014,155	39,912,872	26,608,581	541,495,621
Greenbrier	1,220,293,321	78,574,567	52,383,045	653,601,425
Hancock	500,000,000	3,340,986	3,340,986	246,659,014
Harrison	2,172,730,581	476,355,599	476,355,599	610,009,691
Kanawha	5,901,324,612	613,046,309	408,697,539	2,927,748,458
Lewis	2,776,037,160	18,242,652	18,242,652	1,369,775,928
Lincoln	1,770,813,665	5,365,491	3,576,994	1,057,122,708
Logan	8,149,879,105	1,047,641,801	698,427,867	3,842,285,662
Marion	4,317,089,326	622,122,854	622,122,854	1,536,421,809
Marshall	4,448,857,374	144,470,366	144,470,366	2,079,958,321
Mason	339,976,480	17,615,975	17,615,975	152,372,265
McDowell	5,340,598,171	1,399,753,122	933,168,748	1,804,605,781
Mercer	506,829,312	202,132,414	134,754,942	101,965,174
Mineral	809,834,066	35,966,177	35,966,177	368,950,856
Mingo	6,332,263,181	341,577,924	227,718,616	3,457,779,985
Monongalia	3,748,630,971	535,943,942	535,943,942	1,338,371,544
Nicholas	6,172,807,449	192,107,966	128,071,977	3,511,576,504
Ohio	910,000,000	114,852,135	114,852,135	340,147,865
Pleasants	-	85,136	56,757	-
Pocahontas	508,644,743	5,336,236	3,557,491	299,850,610
Preston	3,212,323,508	144,335,788	144,335,788	1,461,825,966
Putnam	433,090,336	21,620,592	14,413,728	238,233,610
Raleigh	4,283,368,282	710,223,256	473,482,171	1,859,797,713
Randolph	4,183,643,819	72,407,928	48,271,952	2,437,778,363
Roane	674,768,793	-	-	404,861,276
Summers	18,678,528	360,741	240,494	10,846,376
Taylor	1,327,673,239	49,308,421	49,308,421	614,528,198
Tucker	486,964,209	60,046,936	60,046,936	183,435,168
Tyler	948,133,232	-	-	474,066,616
Upshur	3,554,551,754	51,364,636	51,364,636	1,725,911,241
Wayne	1,471,495,778	11,243,451	7,495,634	871,654,016
Webster	6,305,536,510	43,671,773	29,114,515	3,739,650,133
Wetzel	3,321,923,236	93,425	93,425	1,660,868,193
Wirt	22,302,720	-	-	11,151,360
Wyoming	5,061,292,844	414,547,650	276,365,100	2,771,465,456
Small Mines	-	25,028,400	25,028,400	-50,000,000
TOTALS	116,705,415,231	8,931,422,571	6,819,776,774	57,168,136,799

* Estimate by W. Va. Geological Survey using One Foot as Minimum Mineable Thickness.
** Loss resulting from the undermining of a coal bed not included.
*** Includes 1979 Delinquent Production.

U.S. RESERVES OF PREMIUM-GRADE COKING COALS BY STATE
(Millions of Tons)

State	High Volatile	Medium Volatile	Low Volatile	Total
Alabama	173.41	21.22	-	194.63
Arkansas	-	-	20.00	20.00
Colorado	611.84	U	-	611.84
Georgia	-	-	0.33	0.33
Illinois	U	-	-	U
Kentucky (East)	4,977.03	-	-	4,977.03
Maryland	-	-	9.83	9.83
Oklahoma	113.70	41.54	13.81	169.05
Pennsylvania	487.39	U	U	487.39
Tennessee	204.04	U	-	204.04
Utah	782.24	-	-	782.24
Virginia	734.00	882.11	12.37	1,628.48
Washington	6.97	-	-	6.97
West Virginia	5,323.71	2,061.59	3,075.62	10,460.92
Total	13,414.33	3,006.46	3,131.96	19,552.75

U refers to undetermined reserves.

Source: U.S. Department of the Interior, Bureau of Mines.

COUNTY BREAKDOWN OF COAL SEAMS

Million Short Tons

County	Seam	Mineable Quantity* in that County			Average Sulfur Content per Seam	Number of Analysis	Weighted Average Sulfur Content per County	Seam Actively Mined
		Deep	Strip	Total	%		%	
Barbour	Redstone	23.55	8.80	32.25	3.0	104		Yes
	Pittsburgh	81.07	51.80	132.87	3.2	361		Yes
	Elk Lick	33.93	.00	33.93	NA**	0		No
	Bakerstown	24.24	7.16	31.40	3.0	43		No
	Upper Freeport	104.64	11.52	116.16	2.6	3		No
	Upper Kittanning	165.17	12.36	177.53	2.2	4		Yes
	Clarion	9.12	2.32	11.44	NA	0		No
	Upper Mercer	159.70	13.16	172.86	NA	0		No
	928	347.34	20.48	367.82	NA	0		No
	Total			1,076.36		515	2.67	
Boone	Lower Kittanning	.00	112.09	112.09	.8	83		Yes
	Stockton-Lewiston	57.42	103.68	161.10	.8	11		Yes
	Coalburg	45.31	91.12	136.43	.7	27		No
	Winifrede	347.79	107.24	455.03	.7	88		Yes
	Chilton	187.40	29.48	216.88	.8	27		Yes
	Hernshaw	289.70	53.12	342.82	1.0	31		Yes
	Williamson	11.50	.00	11.50	1.5	3		No
	Cedar Grove	241.89	19.96	261.85	1.2	72		Yes
	Alma	317.81	23.16	340.97	2.0	28		No
	Campbells Creek	332.97	32.48	365.45	1.4	25		Yes
	Powellton	9.93	4.92	14.85	.7	3		Yes
	Eagle	27.13	2.32	29.45	.8	10		No
	Total			2,448.42		480	1.1	

* Mineable Quantity - only seams greater than 28 inches thick are considered mineable.

** NA - Not available.

COUNTY BREAKDOWN OF COAL SEAMS

Million Short Tons

Continued)

County	Seam	Mineable Quantity* in that County			Average Sulfur Content per Seam	Number of Analysis	Weighted Average Sulfur Content per County	Seam Actively Mined
		Deep	Strip	Total	%		%	
Braxton	Pittsburgh	50.37	55.92	106.29	2.4	25		
	Bakerstown	9.58	.00	9.58	1.6	1		No
	Upper Freeport	36.35	.00	36.35	2.5	1		No
	Lower Freeport	7.56	.00	7.56	NA	0		No
	Upper Kittanning	35.64	24.72	60.36	.7	3		No
	Middle Kittanning	12.22	.00	12.22	.7	1		No
	Lower Kittanning	203.68	18.24	221.92	1.1	3		No
	Stockton-Lewiston	61.82	.00	61.82	NA	0		No
	Cedar Grove	12.33	.00	12.33	NA	0		No
	Eagle	29.52	1.16	30.68	3.6	1		No
	Sewell	8.66	.00	8.66	NA	0		No
	Total			567.77		35	1.6	
Brooke	Waynesburg	.00	11.15	11.15	NA	0		No
	Pittsburgh	131.15	20.60	151.75	2.6	44		Yes
	Bakerstown	5.20	.00	5.20	NA	0		No
	Mahoning	7.77	.00	7.77	NA	0		No
	Lower Freeport	8.67	.00	8.67	NA	0		No
	Upper Kittanning	8.67	.00	8.67	NA	0		No
	Lower Kittanning	7.80	.00	7.80	NA	0		No
	Total			201.01		44	2.6	
Cabell	Pittsburgh	.00	22.24	22.24	NA	0		No
	Total			22.24		0		
Calhoun	Washington	.33	.88	1.21	1.5	3		No
	Pittsburgh	.00	3.10	3.10	3.4	2		No
	Total			4.31		5	2.8	

COUNTY BREAKDOWN OF COAL SEAMS

Million Short Tons

Continued)

County	Seam	Mineable Quantity* in that County			Average Sulfur Content per Seam	Number of Analysis	Weighted Average Sulfur Content per County	Seam Actively Mined
		Deep	Strip	Total	%		%	
Clay	Pittsburgh	5.02	7.96	12.98	NA	0		No
	Lower Freeport	2.95	.00	2.95	NA	0		No
	Upper Kittanning	77.54	47.36	124.90	1.8	8		Yes
	Middle Kittanning	73.72	33.76	107.48	.9	10		No
	Lower Kittanning	227.16	42.24	269.40	.7	80		No
	Clarion	24.29	.00	24.29	.8	4		No
	Stockton-Lewiston	101.75	.00	101.75	NA	0		No
	Coalburg	157.10	16.92	174.02	.8	17		No
	Winifrede	14.93	.00	14.93	NA	0		No
	Eagle	10.56	.00	10.56	NA	0		No
	Total			843.26		119	0.95	
Doddridge	Uniontown	9.19	.00	9.19	4.8	2		No
	Pittsburgh	239.22	.00	239.22	NA	0		No
	Total			248.41		2	4.8	
Fayette	Middle Kittanning	.80	2.08	2.88	NA	0		Yes
	Lower Kittanning	.94	18.64	19.58	.7	10		No
	Stockton-Lewiston	4.88	15.12	20.00	NA	0		Yes
	Coalburg	3.37	28.48	31.85	.8	14		No
	Winifrede	14.65	6.44	21.09	NA	0		No
	Chilton	24.52	7.24	31.76	NA	0		No
	Cedar Grove	12.10	10.00	22.10	NA	0		No
	Alma	27.69	10.40	38.09	.7	1		Yes
	Peerless	2.10	.00	2.10	2.2	1		Yes
	Campbells Creek	220.80	68.44	289.24	.8	66		Yes
	Powellton	65.09	19.08	84.17	.8	33		Yes
	Eagle	94.92	34.64	129.56	.8	940		Yes

COUNTY BREAKDOWN OF COAL SEAMS

Million Short Tons

Continued

County	Seam	Mineable Quantity* in that County			Average Sulfur Content per Seam	Number of Analysis	Weighted Average Sulfur Content per County	Seam Actively Mined
		Deep	Strip	Total	%		%	
Fayette (cont.)	Little Eagle	38.83	1.56	40.39	.7	10		Yes
	Glenalum Tunnel	6.99	.00	6.99	.6	2		No
	Gilbert	5.83	.00	5.83	.9	2		No
	Douglas	5.98	.00	5.98	NA	0		No
	Sewell	171.47	24.72	196.19	.7	429		Yes
	Fire Creek	71.54	15.16	86.70	.8	110		Yes
	Poca No. 6	23.76	7.24	31.00	.8	14		No
	Poca No. 3	.00	6.25	6.25	1.4	2		No
	Total			1,071.75		1,634	.77	
Gilmer	Pittsburgh	154.12	15.36	169.48	2.4	106		Yes
	Total			169.48		106	2.4	
Grant	Pittsburgh	.04	.20	.24	NA	0		No
	Little Pittsburgh	.10	.00	.10	1.0	1		No
	Elk Lick	12.58	.00	12.58	4.2	2		No
	Bakerstown	72.31	7.20	79.51	1.5	15		Yes
	Upper Freeport	228.20	6.92	235.12	1.4	8		Yes
	Total			327.55		26	1.53	
Greenbrier	Sewell	46.63	11.80	58.43	1.1	933		Yes
	Little Raleigh	18.40	3.48	21.88	NA	0		No
	Beckley	17.06	4.76	21.82	1.3	11		Yes
	Fire Creek	100.87	10.57	111.39	.9	143		Yes
	Poca No. 6	75.81	9.28	85.09	.8	19		No
	Poca No. 3	10.93	.00	10.93	.8	3		No
	Total			309.54		1,109	.94	

COUNTY BREAKDOWN OF COAL SEAMS

Million Short Tons

Continued)

County	Seam	Mineable Quantity* in that County			Average Sulfur Content per Seam	Number of Analysis	Weighted Average Sulfur Content per County	Seam Actively Mined
		Deep	Strip	Total	%		%	
Hancock	Pittsburgh	.93	1.08	2.01	3.3	3		No
	Brush Creek	18.33	1.36	19.69	NA	0		No
	Mahoning	17.89	1.80	19.69	3.3	5		No
	Lower Freeport	59.31	1.88	61.19	3.8	5		No
	Middle Kittanning	17.77	1.92	19.69	5.9	1		No
	Lower Kittanning	18.16	2.00	20.16	3.8	3		No
	Total			142.43		17	4.05	
Harrison	Redstone	5.23	11.64	16.87	2.6	25		Yes
	Pittsburgh	335.06	51.08	386.14	3.1	2,448		Yes
	Harlem	.27	.00	.27	2.9	5		No
	Upper Kittanning	40.33	.00	40.33	2.4	1		No
	Total			443.61		2,479	3.02	
Kanawha	Pittsburgh	43.82	40.80	84.62	2.0	19		No
	Stockton-Lewiston	321.77	134.88	456.65	.8	73		Yes
	Coalburg	28.79	96.96	125.75	.8	32		Yes
	Winifrede	.00	85.50	85.50	.7	218		Yes
	Hernshaw	1.55	.36	1.91	NA	0		Yes
	Cedar Grove	93.80	9.32	103.12	.8	93		No
	Peerless	74.35	.00	74.35	1.9	7		No
	Campbells Creek	298.76	23.80	322.56	1.1	34		Yes
	Powellton	18.27	2.52	20.79	.7	17		Yes
	Eagle	46.06	4.36	50.42	.8	16		Yes
	928	193.45	165.00	358.45	NA	0		No
	Total			1,684.12		509	1.0	

COUNTY BREAKDOWN OF COAL SEAMS

Million Short Tons

Continued)

County	Seam	Mineable Quantity* in that County			Average Sulfur Content per Seam	Number of Analysis	Weighted Average Sulfur Content per County	Seam Actively Mined
		Deep	Strip	Total	%		%	
Lewis	Washington	3.24	.00	3.24	NA	0		No
	Redstone	221.55	46.60	268.15	3.3	35		Yes
	Pittsburgh	254.05	24.40	278.45	3.3	89		Yes
	Barton	94.46	12.32	106.78	2.1	5		No
	Bakerstown	47.69	.00	47.69	4.6	3		No
	Upper Kittanning	42.80	2.64	45.44	3.3	2		No
	Lower Kittanning	66.51	3.36	69.87	.9	7		No
	Total			819.62		141	3.0	
Lincoln	Upper Freeport	11.99	12.92	24.91	NA	0		No
	Lower Kittanning	105.97	61.76	167.73	NA	0		No
	Stockton-Lewiston	129.03	8.20	137.23	2.1	1		No
	Campbells Creek	113.44	.00	113.44	.8	1		No
	Total			443.31		2	1.51	
Logan	Lower Kittanning	34.98	115.80	150.78	.7	333		Yes
	Stockton-Lewiston	68.81	109.54	178.35	.5	2		Yes
	Coalburg	96.08	154.68	250.76	.8	5		Yes
	Winifrede	134.19	.00	134.19	1.5	207		Yes
	Chilton A	.05	.00	.05	NA	0		No
	Chilton	195.49	54.05	249.54	.7	177		Yes
	Hernshaw	113.08	.00	113.08	NA	0		No
	Dingess	90.78	.00	90.78	.8	2		No
	Williamson	142.18	.00	142.18	.6	1		Yes
	Cedar Grove	503.27	70.84	574.11	1.3	1,791		Yes
	Lower Cedar Grove	126.18	16.66	142.84	.6	10		Yes
	Alma	732.29	.00	732.29	1.7	342		No
	Campbells Creek	800.85	35.94	836.79	.7	28		Yes

COUNTY BREAKDOWN OF COAL SEAMS

Million Short Tons

(Continued)

County	Seam	Mineable Quantity* in that County			Average Sulfur Content per Seam	Number of Analysis	Weighted Average Sulfur Content per County	Seam Actively Mined
		Deep	Strip	Total	%		%	
Logan (cont.)	Powellton	.82	.00	.82	.7	10		Yes
	Eagle	24.82	.00	24.82	.9	117		No
	Bens Creek	8.88	.00	8.88	NA	0		No
	Little War Eagle	3.51	.00	3.51	.8	1		No
	Total			3,633.77		3,026	1.03	
McDowell	Williamson	.12	.00	.12	NA	0		No
	Cedar Grove	.75	.00	.75	NA	0		No
	Lower Cedar Grove	.84	.00	.84	.8	1		No
	Alma	.80	.00	.80	NA	0		No
	Campbells Creek	.43	3.44	3.87	NA	0		No
	Powellton	.77	.00	.77	NA	0		No
	Matewan	2.87	.00	2.87	NA	0		No
	Eagle	12.82	29.90	42.72	1.2	15		Yes
	Bens Eagle	6.75	.00	6.75	NA	0		No
	Little Eagle	7.27	7.12	14.39	NA	0		No
	Cedar	6.02	.00	6.02	NA	0		No
	Little War Eagle	14.54	.00	14.54	NA	0		No
	Glenalum Tunnel	6.62	.00	6.62	NA	0		No
	Gilbert	16.14	.00	16.14	NA	0		Yes
	Douglas	26.10	.00	26.10	1.1	842		Yes
	Lower Douglas	23.82	.00	23.82	NA	0		No
	Iaeger	45.34	.00	45.34	.8	17		Yes
	Sewell B	7.06	.00	7.06	NA	0		No
	Sewell	51.48	63.34	114.82	.6	501		Yes
	Welch	.00	37.19	37.19	.7	42		Yes
	Little Raleigh	1.28	.00	1.28	NA	0		No
	Beckley	123.72	30.80	154.52	.7	523		Yes

COUNTY BREAKDOWN OF COAL SEAMS

Million Short Tons

(Continued)

County	Seam	Mineable Quantity* in that County			Average Sulfur Content per Seam	Number of Analysis	Weighted Average Sulfur Content per County	Seam Actively Mined
		Deep	Strip	Total	%		%	
McDowell (cont.)	Fire Creek	54.89	.00	54.89	.9	19		No
	Little Fire Creek	10.73	.00	10.73	NA	0		Yes
	Pocahontas No. 9	.00	21.72	21.72	.7	3		No
	Pocahontas No. 7	.00	.17	.17	.7	1		No
	Pocahontas No. 6	10.41	.00	10.41	.8	15		No
	Pocahontas No. 5	2.74	6.80	8.54	.6	9		No
	Pocahontas No. 4	236.54	77.62	314.16	.6	70		Yes
	Pocahontas No. 3	241.10	45.67	286.77	.6	127		Yes
	Pocahontas No. 2	.40	.00	.40	NA	0		Yes
	Total			1,236.12		2,185	.68	
Marion	Washington	25.05	.00	25.05	2.8	2		No
	Waynesburg	313.25	42.60	355.85	2.4	4		No
	Sewickley	989.71	21.10	1,010.81	4.1	22		No
	Redstone	1.56	.00	1.56	NA	0		No
	Pittsburgh	1,022.93	24.19	1,047.12	1.8	438		Yes
	Upper Freeport	31.44	9.58	41.02	NA	0		No
	Upper Kittanning	21.35	6.37	27.72	NA	0		No
	Lower Kittanning	194.17	11.42	205.59	1.9	3		Yes
	Total			2,714.72		469	2.78	
Marshall	Washington	60.44	.00	60.44	NA	0		No
	Waynesburg	142.60	.00	142.60	3.6	5		No
	Sewickley	916.06	.00	916.06	3.8	11		No
	Pittsburgh	1,924.67	.98	1,925.65	4.6	40		Yes
	Total			3,044.75		56	2.97	
Mason	Pittsburgh	115.39	2.48	117.87	3.0	70		Yes
	Little Pittsburgh	1.27	.00	1.27	NA	0		No
	Total			119.14		70	3.00	

COUNTY BREAKDOWN OF COAL SEAMS

Million Short Tons

(Continued)

County	Seam	Mineable Quantity* in that County			Average Sulfur Content per Seam	Number of Analysis	Weighted Average Sulfur Content per County	Seam Actively Mined
		Deep	Strip	Total	%		%	
Mercer	Sewell	.53	.00	.53	NA	0		Yes
	Snake Root	1.14	.00	1.14	NA	0		No
	Beckley	1.33	.00	1.33	NA	0		Yes
	Fire Creek	.87	.00	.87	.6	4		Yes
	Pocahontas No. 9	5.77	.00	5.77	NA	0		No
	Pocahontas No. 6	7.79	10.50	18.29	.8	18		Yes
	Pocahontas No. 3	21.09	6.20	27.29	.7	88		Yes
	Pocahontas No. 2	.13	8.40	8.53	1.1	1		No
	Total			63.75		111	.79	
Mineral	Sewickley	.65	.00	.65	NA	0		No
	Redstone	.27	1.32	1.59	NA	0		No
	Pittsburgh	15.08	.00	15.08	.9	8		Yes
	Little Clarksburg	6.83	.00	6.83	NA	0		No
	Elk Lick	18.82	.00	18.82	2.7	26		Yes
	Harlem	4.70	.00	4.70	2.3	1		No
	Upper Bakerstown	26.91	4.68	31.59	NA	0		No
	Bakerstown	35.84	4.56	40.40	.8	28		Yes
	Mahoning	31.72	2.40	34.12	1.1	8		No
	Upper Freeport	65.06	3.20	68.26	2.1	12		No
	Upper Kittanning	1.23	.00	1.23	2.2	3		No
	Lower Kittanning	11.36	.00	11.36	2.1	2		No
	Total			234.63		88	1.62	
Mingo	Lower Kittanning	.74	5.36	6.10	NA	0		No
	Stockton-Lewiston	29.80	43.56	73.36	.6	1		Yes
	Coalburg	199.05	187.17	386.22	.7	24		Yes
	Little Coalburg	7.43	.00	7.43	NA	0		No

COUNTY BREAKDOWN OF COAL SEAMS

Million Short Tons

(Continued)

County	Seam	Mineable Quantity* in that County			Average Sulfur Content per Seam	Number of Analysis	Weighted Average Sulfur Content per County	Seam Actively Mined
		Deep	Strip	Total	%		%	
Mingo (cont.)	Buffalo Creek	35.79	23.11	58.90	.9	4		No
	Winifrede	7.78	1.30	9.08	.7	59		Yes
	Chilton A	50.34	.00	50.34	.7	2		No
	Chilton	100.15	20.59	120.74	1.1	3		Yes
	Hernshaw	19.73	.00	19.73	NA	0		No
	Dingess	37.57	.00	37.57	2.1	2		No
	Williamson	128.58	32.42	161.00	2.1	4		No
	Cedar Grove	592.92	70.20	663.12	1.2	751		Yes
	Lower Cedar Grove	44.78	8.86	53.64	.8	11		Yes
	Alma	332.50	41.80	374.30	.6	26		Yes
	Campbells Creek	146.08	10.26	156.34	1.0	256		Yes
	Eagle	67.77	.00	67.77	1.2	8		Yes
	Bens Creek	34.93	.00	34.93	NA	0		No
	Cedar	26.08	.00	26.08	1.1	1		No
	Little War Eagle	8.63	.00	8.63	1.1	1		No
	Glenalum Tunnel	16.80	.00	16.80	NA	0		No
	Total			2,332.08		1,153	1.04	
Monongalia	Washington	44.97	.00	44.97	2.4	9		No
	Waynesburg	544.90	22.79	567.69	2.0	13		No
	Sewickley	848.90	28.60	877.50	2.6	605		Yes
	Redstone	45.84	25.80	71.64	2.1	119		No
	Pittsburgh	1,342.14	41.30	1,383.44	2.9	1,659		Yes
	Upper Freeport	135.13	15.30	150.43	1.2	33		No
	Upper Kittanning	13.39	2.11	15.58	1.8	3		No
	Lower Kittanning	33.54	6.03	39.57	2.0	13		Yes
	Total			3,150.74		2,454	2.53	

COUNTY BREAKDOWN OF COAL SEAMS

Million Short Tons

(Continued)

County	Seam	Mineable Quantity* in that County			Average Sulfur Content per Seam	Number of Analysis	Weighted Average Sulfur Content per County	Seam Actively Mined
		Deep	Strip	Total	%		%	
Nicholas	Lower Freeport	4.46	5.36	9.82	.8	1		No
	Upper Kittanning	33.18	39.28	72.46	1.0	7		Yes
	Middle Kittanning	68.25	24.64	92.89	1.6	6		Yes
	Lower Kittanning	125.86	61.48	187.34	.8	94		Yes
	Clarion	26.59	25.48	52.07	1.1	2		No
	Stockton-Lewiston	75.56	.00	75.56	2.6	2		No
	Coalburg	155.95	32.60	188.55	1.0	31		Yes
	Winifrede	97.48	.00	97.48	.8	5		Yes
	Chilton	63.76	.00	63.76	NA	0		No
	Cedar Grove	.05	.00	.05	NA	0		No
	Alma	23.55	.00	23.55	1.9	3		No
	Peerless	116.46	7.60	124.06	.9	44		Yes
	Campbells Creek 2	91.99	12.24	104.23	1.0	11		Yes
	Eagle	194.99	17.84	212.83	.7	31		Yes
	Little Eagle	45.82	.00	45.82	.7	3		No
	Gilbert	30.31	2.96	33.27	1.5	10		Yes
	Sewell	236.86	8.20	245.06	.8	50		Yes
	Fire Creek	42.57	.00	42.57	.7	3		No
	Total			1,671.37		303	1.0	
Ohio	Washington	17.68	16.00	33.68	10.0	1		No
	Waynesburg	8.21	4.97	13.18	3.1	6		No
	Sewickley	54.27	.00	54.27	NA	0		No
	Pittsburgh	273.29	14.40	287.69	3.8	29		Yes
	Lower Freeport	25.60	.00	25.60	NA	0		No
	Total			414.42		36	4.4	

COUNTY BREAKDOWN OF COAL SEAMS

Million Short Tons

(Continued)

County	Seam	Mineable Quantity* in that County			Average Sulfur Content per Seam	Number of Analysis	Weighted Average Sulfur Content per County	Seam Actively Mined
		Deep	Strip	Total	%		%	
Pocahontas	Gilbert	3.16	5.60	23.76	.8	1		No
	Iaeger	50.03	11.92	61.95	.7	1		No
	Sewell	73.40	14.40	87.80	.7	71		No
	Total			163.52		73	.71	
Preston	Pittsburgh	5.24	1.60	6.84	1.4	7		Yes
	Elk Lick	14.45	.00	14.45	3.2	2		No
	Bakerstown	48.68	.00	48.68	1.9	418		Yes
	Upper Freeport	221.05	41.36	262.41	2.0	458		Yes
	Lower Freeport	54.40	.00	54.40	3.8	3		No
	Upper Kittanning	141.79	.00	141.79	2.3	15		No
	Middle Kittanning	.08	.00	.08	3.8	2		No
	Lower Kittanning	246.32	.00	246.32	2.0	319		No
	Clarion	102.52	.00	102.52	2.0	5		No
	Winifrede	2.95	.00	2.95	NA	0		No
	Total			980.44		1,229	2.16	
Putnam	Pittsburgh	141.41	5.16	146.57	3.0	43		No
	Little Pittsburgh	1.13	.00	1.13	NA	0		No
	Total			147.70		43	3.0	
Raleigh	Lower Kittanning	4.44	5.21	9.65	.7	9		No
	Stockton-Lewiston	2.09	5.00	7.09	NA	0		No
	Coalburg	7.20	.00	7.20	NA	0		No
	Winifrede	18.08	24.64	42.72	.8	27		No
	Lower Winifrede	9.63	.00	9.63	NA	0		No
	Little Chilton	28.89	.00	28.89	NA	0		No
	Hernshaw	35.76	10.30	46.06	1.3	4		No

COUNTY BREAKDOWN OF COAL SEAMS

Million Short Tons

(Continued)

County	Seam	Mineable Quantity* in that County			Average Sulfur Content per Seam	Number of Analysis	Weighted Average Sulfur Content per County	Seam Actively Mined
		Deep	Strip	Total	%		%	
Raleigh (cont.)	Cedar Grove	3.79	.00	3.79	1.1	24		No
	Alma	54.84	18.08	72.92	.8	5		No
	Peerless	94.74	.00	94.74	NA	0		No
	Campbells Creek 2	150.65	46.70	197.35	1.0	20		Yes
	Powellton A	3.96	.00	3.96	NA	0		No
	Powellton	26.93	40.50	67.43	1.1	60		No
	Matewan	87.17	.00	87.17	NA	0		No
	Eagle	196.13	46.33	242.46	.8	39		Yes
	Little Eagle	36.55	21.32	57.87	.8	1		No
	Little War Eagle	72.23	5.68	77.91	1.2	8		No
	Gilbert	17.74	.00	17.74	.9	1		No
	Sewell	65.36	3.96	69.32	.9	125		Yes
	Beckley	334.13	66.78	400.91	.7	97		Yes
	Fire Creek	56.84	25.33	82.17	.8	51		Yes
	Pocahontas No. 8	1.15	.00	1.15	.8	1		No
	Pocahontas No. 6	15.61	2.47	18.08	.8	1		Yes
	Pocahontas No. 4	63.91	.00	63.91	.8	33		Yes
	Pocahontas No. 3	261.40	17.07	278.47	.8	103		Yes
	Pocahontas No. 2	7.12	.00	7.12	.9	2		Yes
	Total			1,995.71		611	.85	
Randolph	Bakerstown	1.68	.00	1.68	NA	0		No
	Upper Freeport	4.76	.80	5.56	NA	0		No
	Upper Kittanning	6.47	3.08	9.55	1.3	14		Yes
	Clarion	24.13	.76	24.89	1.9	1		No
	Upper Mercer	52.04	11.56	63.60	2.0	2		No
	Stockton-Lewiston	5.96	7.44	13.40	NA	0		No
	Winifrede	3.89	.00	3.89	NA	0		No
	Peerless	58.78	21.16	79.94	.8	24		Yes

COUNTY BREAKDOWN OF COAL SEAMS

Million Short Tons

(Continued)

County	Seam	Mineable Quantity* in that County			Average Sulfur Content per Seam	Number of Analysis	Weighted Average Sulfur Content per County	Seam Actively Mined
		Deep	Strip	Total	%		%	
Randolph (cont.)	Eagle	49.62	.00	49.62	1.3	4		No
	Gilbert	22.80	11.44	34.24	.6	1		No
	Iaeger	62.53	.00	62.53	1.3	2		No
	Castle	72.76	.00	72.76	.9	2		No
	Sewell	308.12	29.84	337.96	.7	39		Yes
	Welch	35.68	2.00	37.68	.6	1		No
	Fire Creek	6.31	.00	6.31	.6	2		No
	928	41.66	25.68	67.34	1.4	9		No
	Total			870.95		101	.98	
Roane	Pittsburgh	10.81	3.88	14.69	2.1	4		No
	Bakerstown	8.60	.32	8.92	1.5	2		No
	Total			23.61		6	1.87	
Summers	Pocahontas No. 6	5.95	.56	6.51	.7	1		No
	Pocahontas No. 3	.00	2.64	2.64	NA	0		No
	Total			9.15		1	.7	
Taylor	Pittsburgh	25.40	18.64	44.04	2.2	258		Yes
	Upper Freeport	30.79	3.72	34.51	1.4	2		No
	Upper Kittanning	130.95	2.96	133.91	3.7	3		No
	Lower Kittanning	201.10	2.79	203.89	2.6	2		No
	Total			416.35		265	2.82	
Tucker	Little Pittsburgh	.06	.00	.06	1.0	1		No
	Bakerstown	25.80	3.20	29.00	.9	10		Yes
	Upper Freeport	63.87	5.76	69.63	1.2	137		No
	Sewell	31.22	.00	31.22	.9	11		No
	Total			129.91		159	1.06	

COUNTY BREAKDOWN OF COAL SEAMS

Million Short Tons

(Continued)

County	Seam	Mineable Quantity* in that County			Average Sulfur Content per Seam	Number of Analysis	Weighted Average Sulfur Content per County	Seam Actively Mined
		Deep	Strip	Total	%		%	
Tyler	Washington	30.91	.00	30.91	4.4	3		No
	Uniontown	48.73	.00	48.73	NA	0		No
	Total			79.64		3	4.4	
Upshur	Redstone	44.47	11.64	56.11	2.5	401		Yes
	Pittsburgh	13.76	3.04	16.80	3.5	16		Yes
	Elk Lick	34.38	2.16	36.54	2.6	8		No
	Upper Freeport	50.40	16.96	67.36	1.5	22		Yes
	Upper Kittanning	83.24	11.04	94.28	1.3	4		No
	Clarion	49.04	.00	49.04	NA	0		No
	Upper Mercer	143.92	13.28	157.20	1.2	2		No
	Stockton-Lewiston	22.84	5.12	27.96	.7	2		No
	Winifrede	18.08	.00	18.08	1.7	1		No
	Peerless	25.44	.00	25.44	NA	0		No
	Eagle	33.53	.00	33.53	NA	0		No
	Iaeger	25.63	.00	25.63	NA	0		No
	Castle	1.84	.00	1.84	NA	0		No
	Sewell	29.92	.00	29.92	NA	0		No
	928	300.38	38.20	338.58	NA	0		No
	Total			978.31		456	1.6	
Wayne	Pittsburgh	.00	16.16	16.16	NA	0		No
	Elk Lick	3.85	1.20	5.05	NA	0		No
	Upper Freeport	3.30	.00	3.30	NA	0		No
	Lower Kittanning	141.96	61.28	203.24	1.1	2		No
	Stockton-Lewiston	30.15	2.44	32.59	NA	0		No
	Campbells Creek 2	224.29	.00	224.29	NA	0		No
	Total			484.63		2	1.1	

COUNTY BREAKDOWN OF COAL SEAMS

Million Short Tons

(Continued)

County	Seam	Mineable Quantity* in that County			Average Sulfur Content per Seam	Number of Analysis	Weighted Average Sulfur Content per County	Seam Actively Mined
		Deep	Strip	Total	%		%	
Webster	Upper Freeport	8.39	.00	8.39	1.7	1		No
	Upper Kittanning	10.53	34.80	45.33	1.0	3		No
	Middle Kittanning	33.63	44.44	78.07	.9	1		No
	Lower Kittanning	70.42	67.24	137.66	1.4	2		No
	Upper Mercer	81.61	.00	81.61	1.6	1		No
	Stockton-Lewiston	92.33	44.04	136.37	1.0	3		No
	Coalburg	46.48	.00	46.48	1.3	1		No
	Winifrede	68.23	.00	68.23	NA	0		Yes
	Chilton	57.56	10.96	68.52	NA	0		No
	Cedar Grove	55.27	7.36	62.63	2.3	2		No
	Alma	4.02	.00	4.02	NA	0		No
	Peerless	57.99	.00	57.99	.9	10		No
	Eagle	160.78	30.64	191.42	3.9	13		No
	Gilbert	27.78	.00	27.78	5.1	1		No
	Iaeger	42.82	2.48	45.30	1.4	4		No
	Sewell	119.74	26.16	145.90	.6	179		Yes
	Welch	130.18	10.24	140.42	.6	6		No
	Pire Creek	31.08	3.44	34.52	.6	23		No
	Total			1,380.71		250	1.6	
Wetzel	Washington	66.98	.00	66.98	4.4	3		No
	Waynesburg	22.30	.00	22.30	NA	0		No
	Uniontown	13.01	.00	13.01	4.2	1		No
	Sewickley	158.15	.00	158.15	NA	0		No
	Pittsburgh	585.65	.00	585.65	NA	0		No
	Total			846.09		4	4.37	

COUNTY BREAKDOWN OF COAL SEAMS

Million Short Tons

(Continued)

County	Seam	Mineable Quantity* in that County			Average Sulfur Content per Seam	Number of Analysis	Weighted Average Sulfur Content per County	Seam Actively Mined
		Deep	Strip	Total	%		%	
Wyoming	Lower Kittanning	.29	2.60	2.89	NA	0		No
	Stockton-Lewiston	.53	.71	1.24	NA	0		No
	Coalburg	1.29	1.21	2.50	NA	0		No
	Buffalo Creek	9.33	.00	9.33	NA	0		No
	Winifrede	16.26	.00	16.26	.8	596		No
	Chilton	16.97	7.65	24.62	.9	1		No
	Little Chilton	.46	.00	.46	NA	0		No
	Hernshaw	11.93	.00	11.93	NA	0		Yes
	Williamson	8.65	.18	8.83	NA	0		No
	Cedar Grove	54.32	18.87	73.19	NA	0		Yes
	Lower Cedar Grove	7.80	.00	7.80	.7	2		No
	Alma A	13.95	.00	13.95	NA	0		No
	Alma	10.84	.19	11.03	.8	2		Yes
	Peerless	.61	.00	.61	NA	0		No
	Campbells Creek 2	11.93	4.57	16.50	.7	65		Yes
	Powellton	17.49	.00	17.49	.6	110		Yes
	Eagle	34.56	14.72	49.28	.9	9		Yes
	Bens Creek	4.33	.00	4.33	NA	0		Yes
	Little Eagle	1.87	.16	2.03	1.4	2		No
	Cedar	6.61	.00	6.61	NA	0		No
	Lower War Eagle	22.37	.00	22.37	NA	0		No
	Glenalum Tunnel	28.74	.00	28.74	.6	1		No
	Gilbert	54.26	.00	54.26	1.5	5		Yes
	Douglas	38.87	.00	38.87	.9	120		Yes
	Iaeger	6.56	.00	6.56	2.1	1		No
	Sewell B	.61	.00	.61	NA	0		No
	Sewell	127.08	24.49	151.57	.6	160		Yes
	Beckley	168.03	.00	168.03	1.1	19		Yes
	Fire Creek	35.39	4.61	40.00	1.0	5		No

COUNTY BREAKDOWN OF COAL SEAMS

Million Short Tons

(Continued)

County	Seam	Mineable Quantity* in that County			Average Sulfur Content per Seam	Number of Analysis	Weighted Average Sulfur Content per County	Seam Actively Mined
		Deep	Strip	Total	%		%	
Wyoming (cont.)	Little Fire Creek	.83	.00	.83	NA	0		No
	Pocahontas No. 9	4.93	.70	5.63	.7	1		No
	Pocahontas No. 7	.09	.00	.09	NA	0		No
	Pocahontas No. 6	126.36	.00	126.36	.8	19		Yes
	Pocahontas No. 5	.58	.00	.58	NA	0		No
	Pocahontas No. 4	150.30	12.50	162.80	.9	5		No
	Pocahontas No. 3	647.08	13.14	660.22	.7	71		Yes
	Total			1,748.40		1,194	.81	

Source: United States Bureau of Mines, Information Circular Number 8680/1975.

ANALYSES OF MINEABLE COAL SEAMS IN WEST VIRGINIA
(Partial Analysis of 26 of the 62 Mineable Coal Seams)

Seam		Volatile Matter %	Fixed Carbon %	Ash %	Sulfur %	B.T.U. Per Lb.	Phosphorous %
Alma							
(67 Analyses)	Min.	29	47	2	0.6	12,200	.001
	Max.	44	65	17	4.0	15,000	.04
	Med.	38	55	5	1.0	14,300	.005
Total Area 1,230 Square Miles Reserve 3.2 Billion Tons							
Bakerstown							
(73 Analyses)	Min.	14	43	5	0.4	11,200	.005
	Max.	37	77	23	7.0	15,000	.12
	Med.	22	68	8	1.1	14,000	.02
Total Area 980 Square Miles Reserve 2 Billion Tons							
Beckley							
(340 Analyses)	Min.	13	68	2	0.4	13,600	.002
	Max.	25	81	12	2.5	15,400	.08
	Med.	18	75	4	0.7	14,600	.012
Total Area 600 Square Miles Reserve 2 Billion Tons							
Campbells Creek (Peerless)							
(258 Analyses)	Min.	25	45	2	0.6	12,800	.001
	Max.	45	69	15	3.0	15,400	.055
	Med.	34	59	5	1.0	14,400	.005
Total Area 750 Square Miles Reserve 1.9 Billion Tons							
Chilton							
(50 Analyses)	Min.	32	50	2	0.6	12,800	.001
	Max.	44	64	14	3.6	15,000	.08
	Med.	36	56	5	0.8	14,200	.006
Total Area 1,470 Square Miles Reserve 4.3 Billion Tons							

ANALYSES OF MINEABLE COAL SEAMS IN WEST VIRGINIA
(Continued)

Seam		Volatile Matter %	Fixed Carbon %	Ash %	Sulfur %	B.T.U. Per Lb.	Phosphorous %
Coalburg							
(114 Analyses)	Min.	30	47	3	0.06	12,000	.001
	Max.	42	62	16	3.0	15,200	.045
	Med.	35	55	7	0.7	13,800	.006
Total Area 875 Square Miles Reserve 3.3 Billion Tons							
Eagle							
(152 Analyses)	Min.	23	49	2	0.6	13,200	.001
	Max.	41	73	17	7.0	15,400	.14
	Med.	31	62	5	0.9	14,400	.006
Total Area 1,360 Square Miles Reserve 4.2 Billion Tons							
Elk Lick							
(36 Analyses)	Min.	15	45	7	0.08	12,800	.001
	Max.	41	76	18	5.5	14,400	.20
	Med.	17	68	11	2.5	13,700	.02
Total Area 230 Square Miles Reserve 650 Million Tons							
Fire Creek							
(196 Analyses)	Min.	15	57	2	0.4	10,600	.002
	Max.	30	80	15	1.2	15,600	.14
	Med.	17	75	5	0.7	14,600	.01
Total Area 930 Square Miles Reserve 2.5 Billion Tons							
Upper Freeport							
(183 Analyses)	Min.	15	43	5	0.4	10,200	.001
	Max.	43	77	20	9.0	14,600	.12
	Med.	29	61	8	1.2	13,800	.02
Total Area 1,165 Square Miles Reserve 3.5 Billion Tons							
Gilbert							
(24 Analyses)	Min.	18	54	2	0.6	12,800	.002
	Max.	39	76	17	6.0	15,200	.08
	Med.	31	60	7	1.2	14,100	.005
Total Area 750 Square Miles Reserve 1.3 Billion Tons							

ANALYSES OF MINEABLE COAL SEAMS IN WEST VIRGINIA
(Continued)

Seam		Volatile Matter %	Fixed Carbon %	Ash %	Sulfur %	B.T.U. Per Lb.	Phosphorous %
Upper Kittanning							
(44 Analyses)	Min.	16	46	5	0.06	12,600	.003
	Max.	43	73	17	5.6	14,000	.055
	Med.	33	54	10	1.5	13,200	.01
Total Area 1,400 Square Miles Reserve 4 Billion Tons							
Lower Kittanning							
(292 Analyses)	Min.	16	41	2	0.4	11,600	.001
	Max.	48	72	26	9.0	15,600	.5
	Med.	34	55	9	1.0	13,500	.01
Total Area 2,640 Square Miles Reserve Over 10 Billion Tons							
Pittsburgh							
(492 Analyses)	Min.	17	45	4	0.6	11,400	.002
	Max.	45	77	20	14.0	14,800	.16
	Med.	37	53	7	2.2	13,800	.017
Total Area 2,165 Square Miles Reserve 13.5 Billion Tons							
Pocahontas No. 6							
(47 Analyses)	Min.	16	57	2	0.4	13,000	.002
	Max.	27	79	9	1.2	15,400	.07
	Med.	20	75	4	0.7	14,600	.009
Total Area 300 Square Miles Reserve 855 Million Tons							
Pocahontas No. 4							
(76 Analyses)	Min.	12	70	3	0.4	14,000	.001
	Max.	22	82	9	1.0	15,600	.012
	Med.	16	77	5	0.5	14,600	.005
Total Area 155 Square Miles Reserve 800 Million Tons							
Pocahontas No. 3							
(860 Analyses)	Min.	12	65	3	0.4	12,800	.001
	Max.	25	82	13	2.0	15,600	.100
	Med.	17	76	4	0.5	14,600	.005
Total Area 650 Square Miles Reserve 2.8 Billion Tons							

ANALYSES OF MINEABLE COAL SEAMS IN WEST VIRGINIA
(Continued)

Seam		Volatile Matter %	Fixed Carbon %	Ash %	Sulfur %	B.T.U. Per Lb.	Phosphorous %
Powellton							
(32 Analyses)	Min.	29	54	2	0.6	14,000	.003
	Max.	44	66	9	3.2	15,000	.015
	Med.	32	61	4	0.7	14,700	.005
Total Area 270 Square Miles Reserve 735 Million Tons							
Redstone							
(61 Analyses)	Min.	32	54	3	1.0	12,800	.002
	Max.	46	66	14	5.5	14,200	.07
	Med.	38	62	7	2.0	13,700	.02
Total Area 238 Square Miles Reserve 1 Billion TOns							
Sewell							
(800 Analyses)	Min.	13	51	2	0.4	11,200	.001
	Max.	34	81	25	5.0	15,800	.09
	Med.	22	72	4	0.9	14,600	.006
Total Area 2,000 Square Miles Reserve 6.25 Billion Tons							
Sewickley							
(68 Analyses)	Min.	18	47	7	0.5	12,600	.003
	Max.	41	74	17	4.5	14,600	.035
	Med.	46	52	10	3.0	13,400	.01
Total Area 930 Square Miles Reserve 3.75 Billion Tons							
Stockton-Lewiston							
(54 Analyses)	Min.	29	46	3	0.6	11,400	.002
	Max.	42	61	22	4.6	14,800	.0
	Med.	36	54	6	0.8	13,600	.005
Total Area 1,350 Square Miles Reserve 4.5 Billion Tons							
Washington							
(24 Analyses)	Min.	28	40	8	0.8	10,400	.001
	Max.	37	58	28	9.0	13,800	.08
	Med.	35	49	13	2.8	12,400	.015
Total Area 1,650 Square Miles Reserve 3.5 Billion Tons							

ANALYSES OF MINEABLE COAL SEAMS IN WEST VIRGINIA
(Continued)

Seam		Volatile Matter %	Fixed Carbon %	Ash %	Sulfur %	B.T.U. Per Lb.	Phosphorous %
Waynesburg							
(32 Analyses)	Min.	30	45	9	1.0	11,400	.003
	Max.	38	57	24	7.0	14,000	.055
	Med.	34	50	14	2.2	12,500	.012
Total Area 780 Square Miles							
Welch							
(45 Analyses)	Min.	13	57	5	0.4	13,000	.004
	Max.	39	29	13	1.4	15,200	.04
	Med.	18	73	7	0.5	14,300	.01
Total Area 350 Square Miles Reserve 965 Million Tons							
Winifrede							
(93 Analyses)	Min.	28	50	2	0.6	12,400	.001
	Max.	43	69	12	2.0	15,200	.015
	Med.	35	57	5	0.7	14,200	.005
Total Area 1,310 Square Miles Reserve 3.5 Billion Tons							

Note: This work does not represent the most recent analysis performed by the West Virginia Geological and Economic Survey. However, these figures will provide a general approximation of West Virginia coal characteristics.

Source: West Virginia Geological and Economic Survey.

WEST VIRGINIA BITUMINOUS COAL RESERVE BASE BY THICKNESS, TYPE OF MINING AND SULFUR RANGE
(Million Short Tons)

	Reserves by Sulfur Range, Percent												
	≤.4	.5-.6	.7-.8	.9-1.0	1.1-1.4	1.5-1.8	1.9-2.2	2.3-2.6	2.7-3.0	>3.0	Unknown	Total	No. of Analysis
Deep													
28"-42" Thick	90.81	1263.04	1966.83	1258.40	1563.89	920.62	674.51	431.38	288.82	1013.15	1729.35	11205.17	
>42" Thick	138.38	1660.41	2982.00	1726.73	2132.34	1694.49	1760.62	1626.33	1490.41	5539.73	2413.57	23172.60	
Total Deep	229.19	2923.45	4948.83	2985.13	3696.23	2615.11	2435.13	2057.71	1779.23	6552.88	4142.92	34377.77	21148
Total Strip													
>28" Thick	44.12	799.33	1363.37	798.64	581.16	262.61	239.14	191.94	147.97	270.40	509.55	5212.02	351
STATE TOTAL	273.31	3722.78	6312.20	3783.77	4277.39	2877.72	2674.27	2249.65	1927.20	6823.28	4652.47	39589.79	21499

Source: Bureau of Mines Information Circular 8655 and 8680/1974.

AVERAGE ANALYSIS OF WEST VIRGINIA COALS

	Moisture	Ash		Sulfur			BTU			No. of
	A.R.	A.R.	Dry	A.R.	Dry	M&AF	A.R.	Dry	M&AF	Analysis
State Average	2.9	8.2	8.5	1.5	1.6	1.7	13,540	13,950	15,240	26,468

Notes: A.R. - As received - Coal with the normal moisture present at the time of taking the sample calculated from the analysis of the air-dried sample.

Dry - Dry basis - Analytical results of tests on the analyzed samples calculated to a moisture-free basis.

M & F - Moisture and Ash Free

Reserve Base is defined by the U.S. Bureau of Mines as in-place beds of bituminous coal ... that occur at depths to 1,000 feet. A considerable proportion of West Virginia's coal reserves are located at a greater depth and therefore are not covered in this analysis.

Source: Bureau of Mines Information Circular 8655

III. WEST VIRGINIA OIL AND NATURAL GAS

SUMMARY BY COUNTY OF PERMITS TO DRILL OIL AND/OR GAS WELLS

COUNTY	1965	1966	1967	1968	1969	1970	1971	1972
Barbour	83	55	47	48	95	27	23	49
Berkeley	-	-	-	-	-	-	-	-
Boone	13	18	9	4	9	2	11	7
Braxton	38	49	40	96	98	62	49	24
Brooke	-	-	1	-	-	1	-	-
Cabell	4	1	6	8	-	2	2	5
Calhoun	114	46	40	37	47	28	24	11
Clay	26	22	16	30	25	11	41	22
Doddridge	138	96	69	54	39	32	48	59
Fayette	6	5	3	6	3	3	8	22
Gilmer	146	78	49	40	77	109	70	86
Grant	1	-	-	-	-	-	-	-
Greenbrier	-	1	1	1	1	-	-	-
Hampshire	6	5	-	1	-	1	4	-
Hancock	1	-	1	2	1	-	-	1
Hardy	4	3	-	-	-	-	-	-
Harrison	39	35	32	34	25	31	44	46
Jackson	38	15	18	19	23	70	66	31
Jefferson	-	-	-	-	-	-	-	-
Kanawha	43	26	123	136	110	40	69	56
Lewis	83	79	74	57	94	54	58	49
Lincoln	25	25	10	16	12	9	8	3
Logan	24	10	10	5	6	13	16	7
Marion	8	5	4	5	5	1	-	-
Marshall	6	4	2	2	3	3	7	3
Mason	20	4	1	1	1	1	1	3
McDowell	30	53	25	26	22	34	51	54
Mercer	-	-	-	-	-	-	1	2
Mineral	-	2	-	4	-	-	4	-
Mingo	12	8	8	7	1	7	4	13
Monongalia	12	15	98	9	2	2	4	3
Monroe	-	-	-	-	-	-	-	-
Morgan	1	1	-	-	-	1	-	-
Nicholas	2	8	14	4	3	5	9	7
Ohio	-	-	-	4	1	-	2	1
Pendleton	-	-	-	3	-	-	-	-
Pleasants	2	7	3	6	15	5	10	1
Pocahontas	4	11	-	-	-	-	-	-
Preston	1	3	4	8	4	19	12	3
Putnam	13	3	19	14	11	1	-	10
Raleigh	13	-	-	2	4	2	3	7
Randolph	1	9	-	-	23	5	3	4
Ritchie	127	121	73	40	65	50	65	53
Roane	134	297	104	26	123	110	32	33
Summers	-	-	-	-	-	-	-	-
Taylor	2	2	2	2	3	1	6	3
Tucker	-	-	-	-	2	1	1	2
Tyler	6	15	9	4	2	5	2	24
Upshur	83	76	59	64	130	92	48	65
Wayne	14	30	13	7	6	9	3	3
Webster	-	-	-	2	2	1	1	-
Wetzel	4	4	8	3	7	-	-	3
Wirt	37	14	14	25	10	4	6	29
Wood	10	20	32	11	4	4	6	5
Wyoming	23	6	5	2	9	8	16	15
TOTAL	1,407	1,287	957	875	1,123	1,123	866	827

SUMMARY BY COUNTY OF PERMITS TO DRILL OIL AND/OR GAS WELLS
(Continued)

COUNTY	1973	1974	1975	1976	1977	1978	1979	1980
Barbour	46	28	57	76	110	162	159	235
Berkeley	-	-	-	-	-	-	-	-
Boone	12	2	4	9	14	30	10	26
Braxton	75	22	21	41	60	76	86	157
Brooke	-	-	3	-	-	-	-	1
Cabell	4	8	10	-	2	7	6	5
Calhoun	16	18	22	31	42	64	39	63
Clay	18	32	133	58	95	81	137	159
Doddridge	47	15	24	49	38	75	187	334
Fayette	25	26	27	12	21	34	62	26
Gilmer	136	89	106	168	197	158	88	141
Grant	-	-	-	-	-	1	-	1
Greenbrier	-	1	1	-	1	-	-	-
Hampshire	3	-	-	-	-	-	-	-
Hancock	-	1	4	-	-	-	-	11
Hardy	-	-	-	-	-	-	1	-
Harrison	131	102	54	89	183	197	178	227
Jackson	11	4	4	17	37	46	47	27
Jefferson	-	-	-	-	-	-	-	-
Kanawha	72	17	40	36	48	90	107	114
Lewis	64	32	53	73	57	93	68	137
Lincoln	22	117	48	101	85	28	26	33
Logan	11	11	4	8	13	7	4	7
Marion	6	3	2	3	6	11	16	15
Marshall	3	3	6	2	3	4	4	9
Mason	9	5	10	3	6	20	47	29
McDowell	41	15	19	40	57	44	38	21
Mercer	4	12	-	3	31	7	3	1
Mineral	-	-	1	-	2	8	11	22
Mingo	19	8	12	8	15	21	15	15
Monongalia	5	4	7	8	12	19	4	17
Monroe	-	2	-	-	-	2	-	-
Morgan	1	-	-	-	1	2	-	-
Nicholas	12	26	48	26	22	45	36	49
Ohio	3	-	1	-	-	1	-	6
Pendleton	-	-	1	-	-	-	-	-
Pleasants	6	9	3	3	9	16	83	278
Pocahontas	-	-	-	-	-	-	-	-
Preston	-	6	6	5	3	11	8	3
Putnam	5	16	16	29	13	51	15	57
Raleigh	14	14	12	36	65	32	52	35
Randolph	6	9	-	2	37	37	43	112
Ritchie	21	52	42	62	135	199	274	348
Roane	37	12	26	18	16	40	43	85
Summers	-	1	-	-	-	-	-	-
Taylor	2	7	17	18	1	18	8	9
Tucker	1	2	-	-	2	2	3	2
Tyler	14	12	-	2	11	15	73	129
Upshur	69	37	56	83	81	104	144	170
Wayne	4	5	9	8	15	26	24	21
Webster	-	1	-	-	2	-	2	-
Wetzel	-	5	6	9	31	9	17	24
Wirt	50	8	11	35	31	18	11	24
Wood	37	57	24	38	36	56	66	181
Wyoming	11	4	4	10	44	28	9	7
TOTAL	827	860	954	1,221	1,690	1,995	2,248	3,373

Source: West Virginia Department of Mines, Oil and Gas Division - Annual Reports

SUMMARY OF TOTAL OIL AND GAS WELL COMPLETIONS

	1965	1966	1967	1968
Gas Wells	675	46	366	408
Oil Wells	138	-	98	41
Oil and Gas	206	1	68	26
Dry	142	7	110	91
Other Wells (Total)	30	65	21	12
Storage	22	38	13	3
Incomplete	1	13	1	-
Water Injection	4	-	2	3
Brine	3	3	2	4
Total Wells Completed	1,188	1,222	663	578
Permits Cancelled	-	123	19	21
Drilling Not Reported Complete	-	273	275	276
Total Drilling Permits Issued	1,407	1,287	957	875
Gas Production Cu. Ft. Daily Initial Open Flow	1,448,899,467	1,092,709,996	1,323,008,118	2,734,400,924
Oil Production BBLS Daily Initial Open Flow	7,432	9,384	3,629	1,959
Footage	3,335,892	3,928,539	2,037,216	1,955,841
Average Depth Per Well (Ft.)	2,807	3,214	3,072	3,383

SUMMARY OF TOTAL OIL AND GAS WELL COMPLETIONS
(Continued)

	1969	1970	1971	1972
Gas Wells	512	414	381	418
Oil Wells	119	64	53	13
Oil and Gas	54	35	42	98
Dry	85	96	94	94
Other Wells (Total)	29	10	9	355
Storage	1	7	4	18
Incomplete	-	-	-	337
Water Injection	25	-	-	-
Brine	-	-	1	-
Total Wells Completed	799	619	583	641
Permits Cancelled	82	17	17	20
Drilling Not Reported Complete	242	230	238	-
Total Drilling Permits Issued	1,123	866	838	827
Gas Production Cu. Ft. (Daily Initial Open Flow)	1,983,626,313	2,151,486,000	1,518,728,000	463,610,000
Oil Production BBLS (Daily Initial Open Flow)	4,104	2,267	3,163	1,766
Footage	2,494,342	2,037,726	1,850,484	2,029,579
Average Depth Per Well (Ft.)	3,121	3,291	3,174	3,166

SUMMARY OF TOTAL OIL AND GAS WELL COMPLETIONS
(Continued)

	1973	1974	1975	1976
Gas Wells	480	470	517	686
Oil Wells	25	7	29	27
Oil and Gas	60	219	108	119
Dry	112	85	95	100
Other Wells (Total)	561	412	418	490
Storage	34	84	43	11
Incomplete	527	328	356	448
Water Injection	-	-	-	27
Brine	-	-	-	-
Total Wells Completed	711	865	811	974
Permits Cancelled	15	5	58	29
Drilling Not Reported Complete	-	-	-	-
Total Drilling Permits Issued	1,073	860	1,224	1,451
Gas Production Cu. Ft. (Daily Initial Open Flow)	566,521,413	702,482,000	550,533,376	584,778,000
Oil Production BBLS (Daily Initial Open Flow)	3,140	3,849	2,046	2,921
Footage	2,240,577	2,640,966	2,382,025	2,240,877
Average Depth Per Well (Ft.)	3,151	3,053	3,255	2,300

SUMMARY OF TOTAL OIL AND GAS WELL COMPLETIONS
(Continued)

	1977	1978	1979	1980
Gas Wells	710	957 *	954	1,028
Oil Wells	15	51 *	58	21
Oil and Gas	113	- *	-	80
Dry	102	93 *	61	87
Other Wells (Total)	855	46 *	1,164	2,110
Storage	-	- *	-	13
Incomplete	843	788 *	1,132	2,066
Water Injection	2	- *	32	30
Brine	-	- *	-	1
Total Wells Completed	997	1,147	1,105	1,260
Permits Cancelled	39	60	11	42
Drilling Not Reported Complete	-	-	-	-
Total Drilling Permits Issued	1,879	1,995	2,248	3,368
Gas Production Cu. Ft. (Daily Initial Open Flow)	599,648,000	820,133,000	1,395,197,000	1,211,278,000
Oil Production BBLS (Daily Initial Open Flow)	1,643	738	901	1,563
Footage	3,186,102	- **	3,981,939	5,044,998
Average Depth Per Well (Ft.)	3,196	- **	-	-

* Well calculations for 1978 do not include delinquents.

** Data was not compiled for 1978.

Source: West Virginia Department of Mines, Oil and Gas Division, Annual Report

SUMMARY OF OIL AND NATURAL GAS DEEP WELL* COMPLETIONS

	1965	1966	1967	1968
Gas	54	36	48	69
Oil	-	-	-	1
Oil and Gas	-	-	1	-
Dry	10	11	23	38
Other Wells	3	19	-	4
Storage	-	18	-	-
Brine	3	-	-	-
Incomplete	-	-	-	-
Gas Production Initial			12 bbls	300 bbl
Daily Open Flow Cu. Ft.	206,012,000	306,792,000	825,239,000	1,894,376,000
Total Wells Drilled	67	66	72	109
Footage	385,368	415,791	416,163	654,606

	1969	1970	1971	1972
Gas	42	54	63	20
Oil	-	-	-	-
Oil and Gas	-	1	-	-
Dry	27	17	31	12
Other Wells	1	6	1	25
Storage	-	-	-	-
Brine	-	-	-	1
Incomplete	-	-	-	24
Gas Production Initial		100 bbls		
Daily Open Flow Cu. Ft.	1,373,510	1,765,791,000	1,853,698,000	38,425,000
Total Wells Drilled	70	78	95	33
Footage	410,415	460,707	546,741	196,971

* A deep well is any well drilled into the top of the Onondaga Formation or 6,000 feet, whichever is less.

SUMMARY OF OIL AND NATURAL GAS DEEP WELL* COMPLETIONS
(Continued)

	1973	1974	1975	1976
Gas	28	17	8	4
Oil	-	-	-	-
Oil and Gas	-	-	-	-
Dry	12	9	5	4
Other Wells	-	7	15	33
Storage	-	-	-	-
Brine	-	-	1	-
Incomplete	-	7	14	33
Gas Production Initial Daily Open Flow Cu. Ft.	34,667,000	32,072,000	4,103,000	1,241,000
Total Wells Drilled	40	21	14	8
Footage	223,022	175,999	89,346	51,335

	1977	1978	1979	1980
Gas	19	21	41	12
Oil	-	-	-	-
Oil and Gas	1	-	-	-
Dry	2	3	5	4
Other Wells	51	80	54	94
Storage	2	3	-	1
Brine	-	-	-	-
Incomplete	51	80	54	93
Gas Production Initial Daily Open Flow Cu. Ft.	1 bbl 27,345,000	19,688,000	77,947,000	10,161,000
Total Wells Drilled	24	27	46	16
Footage	132,609	157,805	250,211	102,389

* A deep well is any well drilled into the top of the Onondaga Formation or 6,000 feet, whichever is less.

Source: West Virginia Department of Mines, Oil and Gas Division, Annual Reports.

SUMMARY BY COUNTY OF OIL AND GAS WELLS ABANDONED

Total Wells Abandoned

COUNTY	1965	1966	1967	1968	1969	1970	1971	1972
Barbour	12	16	10	10	10	9	14	13
Berkeley	-	-	-	-	-	-	-	-
Boone	30	16	7	2	8	11	7	8
Braxton	8	11	4	11	12	26	21	10
Brooke	-	-	3	-	-	1	7	2
Cabell	7	4	4	7	9	1	9	1
Calhoun	25	45	16	6	19	19	8	10
Clay	7	2	5	11	5	1	6	5
Doddridge	44	41	38	21	40	18	14	14
Fayette	-	3	2	2	2	1	1	2
Gilmer	36	38	29	13	19	25	20	19
Grant	-	-	-	-	-	-	-	-
Greenbrier	-	-	1	1	1	1	-	-
Hampshire	1	1	-	-	-	1	-	-
Hancock	1	-	-	-	-	-	-	1
Hardy	1	1	-	-	-	-	-	-
Harrison	25	20	22	14	11	11	30	47
Jackson	19	15	14	15	16	19	26	25
Kanawha	52	13	28	52	38	34	37	13
Lewis	37	58	34	34	19	42	27	21
Lincoln	24	20	25	29	1	-	20	7
Logan	8	17	8	1	1	20	5	6
Marion	12	7	6	10	5	10	15	5
Marshall	15	5	6	2	32	38	39	12
Mason	3	4	1	2	3	5	1	1
McDowell	5	6	6	5	9	6	4	7
Mercer	1	-	-	-	-	-	-	-
Mineral	-	-	1	1	-	-	3	-
Mingo	11	5	6	3	4	2	10	-
Monongalia	5	14	15	8	5	3	8	3
Monroe	-	-	-	-	-	-	-	-
Morgan	-	-	-	-	-	1	-	-
Nicholas	7	1	6	6	2	1	4	4
Ohio	-	-	-	1	1	-	-	1
Pendleton	-	-	-	-	1	1	-	-
Pleasants	10	9	-	1	2	15	6	1
Pocahontas	-	-	-	-	-	-	-	-
Preston	1	-	1	1	5	3	2	3
Putnam	8	7	9	11	10	3	1	1
Raleigh	7	3	1	3	8	1	2	8
Randolph	1	4	-	1	-	1	3	1
Ritchie	61	97	21	25	19	24	23	7
Roane	31	31	24	20	12	35	27	27
Summers	-	-	-	-	-	-	-	-
Taylor	1	3	1	2	1	-	11	3
Tucker	-	-	-	-	-	1	-	2
Tyler	15	13	9	6	8	8	6	1
Upshur	14	15	21	13	13	29	21	15
Wayne	29	30	15	15	8	26	15	4
Webster	-	-	-	-	3	1	-	2
Wetzel	17	38	12	10	4	7	6	4
Wirt	11	6	18	8	9	7	4	4
Wood	21	20	14	10	13	7	3	3
Wyoming	6	3	7	2	5	3	8	5
TOTAL	629	642	450	395	393	478	474	332

SUMMARY BY COUNTY OF OIL AND GAS WELLS ABANDONED
(Continued)

COUNTY	1973	1974	1975	1976	1977	1978	1979	1980
Barbour	10	10	12	5	19	20	15	3
Berkeley	-	-	-	-	-	-	-	-
Boone	7	9	6	5	3	4	6	7
Braxton	17	11	13	13	5	7	9	6
Brooke	1	1	-	4	-	1	-	-
Cabell	-	-	-	1	3	3	7	3
Calhoun	7	23	8	6	16	8	2	2
Clay	6	7	3	6	1	2	4	7
Doddridge	11	119	47	14	7	4	7	8
Fayette	3	4	3	3	2	3	5	1
Gilmer	26	44	27	16	30	18	9	-
Grant	-	-	-	-	-	-	1	-
Greenbrier	-	1	-	1	1	-	-	-
Hampshire	-	-	-	1	-	-	-	-
Hancock	-	5	-	-	-	-	2	2
Hardy	-	-	-	-	-	-	-	2
Harrison	82	70	24	26	24	25	14	10
Jackson	24	63	23	11	6	12	2	11
Kanawha	31	62	26	10	14	17	2	8
Lewis	32	55	31	10	5	15	6	6
Lincoln	3	14	21	20	30	7	12	13
Logan	2	7	8	-	2	-	3	-
Marion	5	27	11	5	4	8	2	-
Marshall	3	6	6	-	1	-	3	-
Mason	3	4	1	3	1	4	-	1
McDowell	6	11	1	1	-	1	-	-
Mercer	1	2	-	-	2	4	3	-
Mineral	-	-	-	1	-	-	1	-
Mingo	5	11	7	-	4	5	5	5
Monongalia	6	14	6	7	6	9	3	3
Monroe	-	2	-	-	-	-	1	-
Morgan	1	-	-	-	-	-	1	-
Nicholas	7	4	14	8	4	2	6	6
Ohio	1	3	1	-	-	1	-	-
Pendleton	-	-	-	-	1	-	-	-
Pleasants	14	8	2	4	13	31	-	-
Pocahontas	-	-	-	-	-	-	-	-
Preston	-	1	2	2	1	2	2	-
Putnam	4	9	5	5	9	1	1	5
Raleigh	7	1	2	3	3	3	5	1
Randolph	4	6	-	-	3	1	1	1
Ritchie	21	42	32	8	18	13	4	5
Roane	15	58	34	12	17	9	6	12
Summers	-	1	-	-	-	-	-	-
Taylor	2	4	3	3	-	1	1	-
Tucker	-	2	1	-	1	-	-	-
Tyler	3	17	17	9	-	4	-	2
Upshur	17	80	21	3	11	10	7	3
Wayne	4	9	24	15	9	15	4	7
Webster	-	1	-	-	1	1	-	-
Wetzel	2	19	7	2	2	4	1	1
Wirt	3	20	3	19	13	3	1	2
Wood	3	17	12	11	5	4	3	2
Wyoming	4	4	7	1	2	5	1	1
TOTAL	332	888	471	275	299	287	174	97

Source: West Virginia Department of Mines, Oil and Gas Division - Annual Reports

WEST VIRGINIA OIL PRODUCTION AND PROVED RESERVES BY YEAR OF DISCOVERY
(Thousands of Barrels)

Year	Production During Year	Proved Reserves at End of Year	Year	Production During Year	Proved Reserves at End of Year
Pre-1920	302,802		1951	2,757	38,762
1920	8,249		1952	2,602	37,212
1921	7,822		1953	3,030	36,612
1922	7,021		1954	2,902	37,312
1923	6,358		1955	2,320	47,000
1924	5,920		1956	2,179	51,221
1925	5,763		1957	2,215	52,545
1926	5,946		1958	2,186	52,104
1927	6,023		1959	2,184	51,259
1928	5,661		1960	2,300	51,433
1929	5,574		1961	2,760	50,924
1930	5,071		1962	3,470	56,172
1931	4,472		1963	3,350	57,303
1932	3,876		1964	3,370	58,710
1933	3,815		1965	3,530	55,183
1934	4,095		1966	3,677	56,573
1935	3,902		1967	3,561	56,217
1936	3,847		1968	3,464	53,568
1937	3,845		1969	3,212	53,481
1938	3,684		1970	3,202	53,221
1939	3,580		1971	3,023	51,731
1940	3,444		1972	2,721	34,040
1941	3,433		1973	2,459	32,126
1942	3,574		1974	2,649	32,210
1943	3,349		1975	2,562	31,418
1944	3,070		1976	2,519	30,009
1945	2,879	38,630	1977	2,518	28,686
1946	2,929	35,655	1978	2,382	29,675
1947	2,617	36,092	1979	2,465	27,922
1948	2,692	36,697			
1949	2,839	37,992			
1950	2,808	39,042			

Source: American Petroleum Institute and American Gas Association, Reserves of Crude Oil, Natural Gas Liquids, and Natural Gas in the United States and Canada as of December 31, 1977 and The Oil Producing Industry in Your State Yearbook, Independent Petroleum Association of America, 1978, 1979.

PETROLEUM REFINERY CAPACITY

Company	County	Capacity bbl/day
Parkersburg Elk Refining Division Rolling Rock	Kanawha	6,300
Quaker State Oil Refinery Corporation Newell	Hancock	11,700
Quaker State Oil Refinery Corporation St. Marys	Pleasants	5,000

Source: West Virginia Fuel and Energy Office survey.

TOTAL SUPPLY OF NATURAL GAS FROM ALL SOURCES (Thousand Cubic Feet)

Year	Produced In West Virginia	Imported From Other States	Withdrawn From Storage	Liquified Petroleum Gas	*Total
1925	175,788,952				
1930	140,585,401				
1931	123,282,689				
1932	98,300,482				
1933	95,606,571				
1934	105,260,619				
1935	113,159,957				
1936	139,101,759				
1937	157,573,607				
1938	139,551,013				
1939	152,600,308				
1940	200,916,562				
1941	233,697,611				
1942	248,142,275				
1943	248,151,649				
1944	209,137,667				
1945	187,116,215				
1946	200,393,100				
1947	193,847,333				
1948	196,244,941				
1949	173,395,766				
1950	180,642,169				
1951	179,542,379	263,707,360	47,245,307	154,552	390,649,598
1952	169,453,046	293,773,643	56,369,181	-	519,595,870
1953	171,994,539	257,112,924	46,435,158	-	475,542,621
1954	170,469,001	252,065,844	69,740,308	-	492,275,153
1955	185,669,829	340,648,931	79,158,478	-	605,477,238
1956	185,421,568	382,881,091	79,002,672	-	647,305,331
1957	182,213,152	378,015,553	82,238,887	-	642,467,592
1958	181,926,798	403,441,646	111,079,995	-	696,448,439
1959	184,188,880	435,468,849	112,448,223	-	732,105,952
1960	180,717,702	454,470,586	125,457,588	-	760,645,876
1961	190,256,946	474,464,863	109,398,822	-	774,120,631
1962	202,409,666	473,831,216	131,447,772	-	807,688,654
1963	204,377,714	523,042,906	131,415,157	-	858,835,777
1964	204,474,920	569,777,871	114,413,873	-	888,666,664
1965	210,166,218	617,920,480	124,867,220	-	952,953,918
1966	208,193,686	656,229,398	132,901,011	-	997,324,095
1967	214,195,750	670,041,731	124,969,097	-	1,009,206,578
1968	232,624,786	682,200,736	156,727,126	-	1,071,552,648
1969	223,324,639	730,794,066	152,787,234	-	1,106,905,939
1970	257,642,814	790,703,197	145,101,125	1,174	1,193,448,310
1971	227,341,618	862,187,181	144,463,288	61,817	1,234,053,904
1972	206,257,825	891,762,579	190,266,436	37,383	1,288,324,223
1973	174,177,573	896,724,202	157,864,333	31,133	1,288,797,241
1974	168,445,775	812,287,414	150,477,896	-	1,131,211,085
1975	154,484,175	686,093,495	122,840,861	190	963,418,721
1976	157,219,442	544,493,344	189,176,535	12,926	890,902,247
1977	156,020,969	808,834,590	136,572,064	79,756	1,101,507,379
1978	158,199,923	635,882,087	174,196,323	27,852	968,306,185
1979	155,019,511	637,332,715	159,108,512	-	951,460,738
1980	159,056,509	606,643,431	154,059,133	-	919,759,073

* This total is less than the actual total owing to only part of the independent producers reporting statistical information to the Public Service Commission.

Source: West Virginia Public Service Commission - Annual Report 1979.

WEST VIRGINIA TOTAL PRODUCTION, CONSUMPTION AND
NET EXPORTS OF NATURAL GAS
(Thousand Cubic Feet)

Year	Natural Gas Produced in West Virginia	Natural Gas Consumption in West Virginia	Net Exports*
1964	204,474,920	189,859,272	14,615,648
1965	210,166,218	191,932,652	18,233,566
1966	208,193,686	195,858,155	12,335,531
1967	214,195,750	218,277,025	4,081,275
1968	232,624,786	208,630,767	23,994,019
1969	223,324,639	213,770,389	9,554,250
1970	257,642,814	214,677,503	42,965,311
1971	227,341,618	220,022,575	7,319,043
1972	206,257,825	238,834,169	-32,576,344
1973	174,177,573	203,947,946	-29,770,373
1974	168,445,775	227,300,472	-58,854,697
1975	154,484,365**	172,703,393	-18,219,028
1976	157,219,442	161,201,472	-3,982,030
1977	156,020,969	160,519,020	-4,498,051
1978	158,199,923	195,233,425	-37,033,502
1979	155,019,511	189,603,863	-34,584,352
1980	159,056,509	181,200,557	-22,144,048

* Minus (-) denotes net imports.

** This number includes the production of 190 thousand cubic feet of petroleum gas.

Source: West Virginia Public Service Commission - Annual Reports.

NATURAL GAS INDICATORS FOR WEST VIRGINIA

(MCF at 60°F and 14.73 PSIA)

Year	Production	Consumption	Total Sales	Imports	Exports
1970	257,642,818	214,677,503	157,403,000	790,703,197	792,483,602
1971	227,341,618	220,022,575	153,120,354	861,642,249	846,476,401
1972	206,257,825	238,834,169	157,862,924	891,762,579	880,975,240
1973	174,177,573	203,947,946	149,507,115	896,724,202	843,605,024
1974	168,445,775	227,300,472	152,584,919	812,287,414	778,546,533
1975	154,484,175	172,703,393	130,973,503	686,093,475	634,215,167
1976	157,219,442	161,201,472	112,369,496	544,493,344	561,171,624
1977	156,020,969	160,519,020	105,461,114	808,834,590	736,100,958
1978	158,199,923	195,233,425	132,163,679	635,882,087	598,024,064
1979	155,019,511	189,603,863	132,348,581	637,332,715	575,593,319

Source: West Virginia Public Service Commission Annual Reports - 1970 through 1979.
These data include information derived from both utilities and non-utilities.

ANALYSIS OF NATURAL GAS CONSUMPTION IN WEST VIRGINIA, 1970-1980

Million Cubic Feet

Year	Total Natural Gas Consumption	Percentage* of Residential and Commercial Sales	Percentage* of Industrial Sales	Percentage* of Other Sales	Percentage* of Unaccounted for Gas	Percentage* of Shrinkage Company Use of Free Gas
1970	214,677,503	35	40	2	8	15
1971	220,022,575	37	39	1	9	15
1972	238,834,169	35	40	1	9	15
1973	203,947,946	39	40	1	3	16
1974	227,300,472	34	38	1	12	14
1975	194,394,569	38	34	1	12	15
1976	161,201,472	48	27	1	7	17
1977	160,519,020	46	25	2	10	18
1978	195,233,425	39	34	2.5	12	15
1979	189,603,863	38	36	1	10	15
1980	181,200,557	38	33	2	12	15

* Because of rounding, percentages may not add up to 100%.

Source: West Virginia Public service Commission Annual Reports.

NUMBER OF PRODUCING GAS AND OIL WELLS IN WEST VIRGINIA
1960-1979

Year	Number of Producing Gas Wells	Number of * Producing Oil Wells
1960	14,500	
1961	16,297	
1962	17,121	
1963	17,500	
1964	17,960	
1965	19,600	
1966	20,830	
1967	20,500	
1968	18,214	
1969	18,600	13,800
1970	20,702	N/A
1971	20,750	13,500
1972	21,100	13,530
1973	21,400	13,600
1974	21,450	13,650
1975	21,700	13,750
1976	22,100	13,800
1977	22,600	13,900
1978	23,575	14,000
1979	24,425	14,225

* Oil well information not available prior to 1969.

Source: U. S. Bureau of Mines; The American Association of Petroleum Geologists; American Petroleum Institute; Independent Petroleum Association of America.

MARKETED PRODUCTION AND AVERAGE WELLHEAD PRICE OF NATURAL GAS IN THE UNITED STATES AND IN WEST VIRGINIA 1960-1979

Year	United States Marketed Production (MMCF)	West Virginia Marketed Production (MMCF)	United States Average Wellhead Price (MCF)	West Virginia Average Wellhead Price (MCF)
1960	12,775,038	208,757	14.0	26.2
1961	13,258,025	210,556	15.1	27.4
1962	13,876,622	210,698	15.5	27.5
1963	14,746,663	210,223	15.8	26.6
1964	15,546,592	203,872	15.4	25.0
1965	16,039,753	207,416	15.6	23.5
1966	17,206,628	211,610	15.7	23.6
1967	18,171,325	211,400	16.0	24.1
1968	19,322,400	236,971	16.4	26.2
1969	20,698,240	231,789	16.7	27.0
1970	21,920,642	242,452	17.1	25.0
1971	22,493,012	234,027	18.2	25.9
1972	22,531,698	214,951	18.6	30.0
1973	22,647,549	208,676	21.6	30.9
1974	21,600,522	202,306	30.4	32.8
1975	20,108,661	154,484	44.5	36.9
1976	19,952,438	153,322	58.0	57.0
1977	20,025,463	152,767	79.0	61.0
1978	19,974,033	148,564	90.5	65.8
1979	20,471,260	150,505	117.8	105.0

MCF: Thousand Cubic Feet
MMCF: Million Cubic Feet

Source: American Gas Association, Gas Facts.

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WEST VIRGINIA NATURAL GAS BALANCE SHEET* (1965-1980)
(Thousand Cubic Feet)

Supply

	1965	1966	1967	1968	1969
Gas Produced in W. Va.	92,125,363	87,933,272	94,128,827	94,863,635	89,676,212
Gas Purchased	222,134,914	230,044,038	233,931,515	271,410,839	281,905,492
Gas Imports	617,438,666	656,229,398	670,041,731	681,666,941	730,248,080
Gas Received from Storage	124,867,220	132,901,011	124,969,097	156,727,126	152,787,234
Exchange Gas Received[1]	27,152,081	25,096,055	31,483,013	32,989,988	33,684,267
TOTAL SUPPLY	1,083,718,064	1,132,203,774	1,154,554,183	1,237,658,529	1,288,301,285

Demand

	1965	1966	1967	1968	1969
Residential Sales	49,798,363	52,971,913	53,312,674	54,757,299	56,664,843
Commercial Sales	16,786,742	17,943,478	21,652,373	21,397,782	23,117,844
Industrial Sales	66,010,028	61,171,628	62,471,477	671,154,243	69,383,027
Sales to Utilities in W. Va.	119,736,138	133,247,929	133,695,438	153,202,436	167,823,046
Nonregulated Sales	73,978	322,663	2,699,224	7,873,592	5,258,212
Other Sales	1,022,674	850,235	765,656	3,255,623	3,901,696
Gas Exports	635,832,549	633,527,166	638,807,505	696,330,334	733,927,331
Gas Transferred to Storage	124,583,747	129,441,645	133,803,755	153,143,805	149,839,898
Exchange Gas Delivered[2]	26,743,373	24,837,681	62,360,599	34,555,755	33,715,851
Gathering and Shrinkage	43,130,472	47,889,436	44,985,482	47,640,743	44,669,537
TOTAL DEMAND	1,083,718,064	1,132,203,774	1,154,554,183	1,237,658,529	1,288,301,285

WEST VIRGINIA NATURAL GAS BALANCE SHEET* (1965-1980)
(Thousand Cubic Feet)

(Continued)

Supply

	1970	1971	1972	1973	1974
Gas Produced in W. Va.	92,994,673	78,951,133	73,869,751	69,960,521	73,333,075
Gas Purchased	347,756,830	338,764,977	210,730,453	184,332,780	179,816,741
Gas Imports	790,157,932	861,642,249	891,202,782	896,166,074	811,739,697
Gas Received from Storage	145,101,125	144,463,228	190,266,436	157,864,333	150,477,896
Exchange Gas Received[1]	36,895,844	37,238,916	31,984,917	28,383,520	25,895,397
TOTAL SUPPLY	1,412,886,404	1,461,060,503	1,398,054,339	1,336,707,229	1,241,262,806

Demand

	1970	1971	1972	1973	1974
Residential Sales	54,973,155	56,554,079	56,722,587	53,230,322	52,760,126
Commercial Sales	19,228,386	23,739,902	26,520,300	25,909,735	25,385,370
Industrial Sales	72,557,760	71,612,828	72,787,220	68,577,807	72,713,819
Sales to Utilities in W. Va.	211,014,579	207,891,276	102,507,753	94,679,506	98,660,383
Nonregulated Sales	1,929,295	4,603,854	4,260,862	4,263,436	4,327,820
Other Sales	4,216,152	1,213,545	1,832,817	1,789,248	1,725,604
Gas Exports	788,879,356	842,681,883	877,219,075	839,901,574	774,995,724
Gas Transferred to Storage	172,981,948	163,858,216	168,514,814	181,244,271	125,364,080
Exchange Gas Delivered[2]	36,604,801	36,182,815	32,094,339	28,258,331	26,107,480
Gathering and Shrinkage	50,500,992	52,722,105	55,594,572	38,762,999	59,222,400
TOTAL DEMAND	1,412,886,404	1,461,060,503	1,398,054,339	1,336,707,229	1,241,262,806

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WEST VIRGINIA NATURAL GAS BALANCE SHEET* (1965-1980)
(Thousand Cubic Feet)

(Continued)

Supply

	1975	1976	1977	1978	1979
Gas Produced in W. Va.	66,557,942	65,685,988	64,994,974	62,804,546	59,043,307
Gas Purchased	154,200,892	161,443,468	145,953,420	158,815,095	160,339,124
Gas Imports	685,625,659	637,982,407	808,834,590	635,882,087	637,332,715
Gas Received from Storage	122,840,861	189,176,535	136,583,064	174,196,323	159,097,209
Exchange Gas Received[1]	26,866,681	25,681,886	30,828,815	25,290,357	21,066,503
TOTAL SUPPLY	1,056,092,035	1,079,970,284	1,187,194,863	1,056,976,582	1,036,921,818

Demand

	1975	1976	1977	1978	1979
Residential Sales	51,576,252	53,724,810	51,794,566	51,916,864	49,461,485
Commercial Sales	22,838,915	23,394,049	21,432,179	23,574,758	22,703,064
Industrial Sales	55,302,050	34,339,386	29,271,187	55,888,990	58,677,088
Sales to Utilities in W. Va.	74,133,225	81,399,750	59,929,396	69,329,674	80,937,223
Nonregulated Sales	3,244,553	27,862,761	19,189,561	2,385,174	1,646,199
Other Sales	1,256,286	911,251	2,965,182	1,156,988	1,509,924
Gas Exports	631,214,640	655,967,915	734,116,215	595,936,385	573,579,037
Gas Transferred to Storage	156,493,161	137,512,337	194,685,267	176,555,397	172,753,260
Exchange Gas Delivered[2]	7,701,935	25,933,191	29,542,434	28,340,638	28,996,907
Gathering and Shrinkage	52,331,018	38,924,834	44,268,876	52,265,635	46,648,631
TOTAL DEMAND	1,056,092,035	1,079,970,284	1,187,194,863	1,056,976,582	1,036,921,818

WEST VIRGINIA NATURAL GAS BALANCE SHEET* (1965-1980)
(Thousand Cubic Feet)

(Continued)

Supply

	1980
Gas Produced in W. Va.	54,320,922
Gas Purchased	165,658,347
Gas Imports	606,643,431
Gas Received from Storage	154,059,133
Exchange Gas Received[1]	22,649,721
TOTAL SUPPLY	1,003,331,554

Demand

	1980
Residential Sales	47,211,420
Commercial Sales	21,504,399
Industrial Sales	50,660,167
Sales to Utilities in W. Va.	67,932,185
Nonregulated Sales	1,993,592
Other Sales	3,026,296
Gas Exports	583,287,941
Gas Transferred to Storage	145,551,906
Exchange Gas Delivered[2]	34,131,509
Gathering and Shrinkage	48,032,139
TOTAL DEMAND	1,003,331,554

* This balance covers only those companies operating under the jurisdiction of the W. Va. Public Service Commission.

1. Exchange Gas Received also includes: Gas Received for Transport to Other Companies and Receipt of Respondent's Gas Transported or Compressed by Others.

2. Exchange Gas Delivered also includes: Transport Gas Delivered to Other Companies and Deliveries of Respondent's Gas for Transportation or Compression by Others.

Source: West Virginia Public Service Commission - Annual Reports.

WEST VIRGINIA PRODUCTION AND SALES OF NATURAL GAS BY COMPANY - 1980
(Thousand Cubic Feet)

Company	Gas Produced in West Virginia	Imports Across State Lines	Total Gas Available	Sales to Utilities in West Virginia	Exports Across State Lines
ABC Gas Company	-	-	8,433	-	-
Benton Gas Inc.	-	-	8,780	-	-
Blacksville Oil and Gas Co.	-	-	33,480	-	-
Bluefield Gas Company	-	-	1,034,674	0	272,257
Boone Regional Utility Team, Inc.	-	-	188,629	-	-
Cabot Corporation	2,837,156	2,465,377	12,292,552	1,149,538	2,221,483
Cameron Gas Company	69,479	-	95,394	-	-
Carnegie Natural Gas Company	997,235	-	185,863	70,159	3,928,223
Columbia Gas Company of W. Va.	-	4,713,426	64,135,071	1,597,363	-
Columbia Gas Transmission Corp.	22,229,676	501,168,462	16,211,143	59,944,713	460,117,197
Consolidated Supply Company	22,847,555	88,932,462	61,618,693	1,766,828	96,656,520
C. S. Dillon and H. C. Dillon	340	-	340	-	-
Equitable Gas Company	2,302,555	6,634,624	7,558,685	7,461	20,174,698
Fifty-Two Gas Company	-	-	37,864	-	-
Harper Heights Gas Company	-	-	108,591	-	-
Inland Company, Inc.	-	355,933	355,933	-	-
Interstate Utilities Company	-	70,197	75,233	-	-
Lumberport-Shinnston Gas Co.	-	-	490,628	-	-
Pennzoil United, Inc.	2,940,186	-	1,135,747	3,380,357	-
Carl D. Perkins	5,363	-	5,363	-	-
Ravencliff Fuel and Supply	-	-	70,340	-	-
Shenandoah Gas Company	-	2,299,416	2,299,416	-	-
Southern Public Service Co.	-	-	1,603,604	-	-
Standard Gas Company	72,425	-	173,669	15,766	-
Union Oil and Gas Company	1,995	-	908,150	-	-
Valley Gas Company	871	-	83,197	-	-
Waggoner Gas Company	16,086	-	34,802	-	-

WEST VIRGINIA PRODUCTION AND SALES OF NATURAL GAS BY COMPANY - 1980
(Thousand Cubic Feet)
Continued

Company	Residential Sales	Commercial Sales	Industrial Sales	Other Sales to Public Authorities	Interde-partmental Sales	Total Sales Within West Virginia
ABC Gas Company	7,969	-	-	-	-	7,969
Benton Gas Inc.	3,454	-	-	-	-	3,454
Blacksville Oil and Gas Co.	18,295	2,603	-	6,535	-	27,433
Bluefield Gas Company	555,803	300,893	145,744	-	-	1,002,440
Boone Regional Utility Team, Inc.	39,054	5,325	-	-	-	44,379
Cabot Corporation	2,809,762	857,102	4,172,263	557,322	2,424,434	10,820,883
Cameron Gas Company	72,749	17,331	3,980	-	-	94,060
Carnegie Natural Gas Company	155,629	2,243	-	-	-	157,872
Columbia Gas Company of W. Va.	25,340,036	11,786,204	24,402,882	-	-	61,529,122
Columbia Gas Transmission Corp.	-	-	-	-	-	-
Consolidated Supply Company	13,942,070	6,763,903	18,232,768	-	-	38,968,741
C. S. Dillon and H. C. Dillon	340	-	-	-	-	340
Equitable Gas Company	1,417,676	700,709	1,423,859	-	-	3,542,244
Fifty-Two Gas Company	26,006	3,122	-	-	-	29,128
Harper Heights Gas Company	76,387	8,762	10,359	-	-	95,508
Inland Company, Inc.	884	-	355,049	-	-	355,933
Interstate Utilities Company	54,864	15,831	-	-	-	70,695
Lumberport-Shinnston Gas Co.	362,816	52,472	-	17,798	-	433,086
Pennzoil United, Inc.	686,081	78,023	-	-	-	764,104
Carl D. Perkins	5,363	-	-	-	-	5,363
Ravencliff Fuel and Supply	42,716	903	-	-	20,207	63,826
Shenandoah Gas Company	168,961	406,812	1,642,083	-	-	2,217,856
Southern Public Service Co.	1,019,130	305,991	152,923	-	-	1,478,044
Standard Gas Company	37,013	14,625	118,257	-	-	169,895
Union Oil and Gas Company	313,532	116,942	-	-	-	430,474
Valley Gas Company	34,733	32,705	-	-	-	67,438
Waggoner Gas Company	20,097	1,898	-	-	-	21,995

Note: Natural Gas Companies not filing a 1979 annual report with the West Virginia Public Service Commission were: Ashford Gas Company; A. V. Company, Inc.; Bailey Gas Company; Bazzle Gas Company; BMW Oil and Gas; Harry C. Boggs Natural Gas Company; H.A.B. Ltd.; Indian Creek Gas Company; Lake Washington Gas Company; Oceana Gas Company; Town Gas Company; Washington Oil Company; Wayne Gas Company; Norman E. Wetz; and Wire Branch Gas Company.

Source: West Virginia Public Service Commission Annual Reports.

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Major Gas Utilities Serving in WEST VIRGINIA

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ANNUAL ESTIMATES OF PROVED NATURAL GAS RESERVES IN WEST VIRGINIA, 1945-1979 (YEAR-END RESERVES)
(Million Cubic Feet)

Year	Non-Associated	Associated-Dissolved	Underground Storage	Total Gas
1945	1,808,425	109,403	*	1,917,828
1946	1,729,555	100,451	*	1,830,006
1947	1,676,082	94,981	*	1,771,063
1948	1,613,425	89,014	25,294	1,727,733
1949	1,578,487	85,036	42,394	1,705,917
1950	1,504,792	81,057	55,861	1,641,710
1951	1,496,196	76,731	89,495	1,662,422
1952	1,462,559	72,887	115,608	1,651,054
1953	1,420,667	59,180	165,112	1,644,959
1954	1,376,539	56,806	165,216	1,598,561
1955	1,325,438	55,811	175,151	1,556,400
1956	1,281,604	63,685	207,966	1,553,255
1957	1,255,416	65,674	231,363	1,552,453
1958	1,242,056	64,680	242,437	1,549,173
1959	1,263,723	64,282	256,891	1,584,896
1960	1,464,201	63,287	293,691	1,821,179
1961	1,621,969	62,293	323,775	2,008,037
1962	1,647,463	60,552	317,984	2,025,999
1963	1,930,259	60,802	320,103	2,311,164
1964	1,936,618	61,202	350,125	2,347,945
1965	2,078,623	60,843	354,557	2,494,023
1966	2,226,337	60,991	334,909	2,622,237
1967	2,174,935	58,602	346,449	2,579,986
1968	2,179,581	58,398	347,602	2,585,581
1969	2,050,917	58,044	338,363	2,447,324
1970	2,002,320	57,978	376,080	2,436,378
1971	1,962,281	56,777	392,726	2,411,784
1972	1,916,685	53,672	375,600	2,345,957
1973	1,912,318	52,319	355,191	2,319,828
1974	1,869,226	51,917	344,438	2,265,581
1975	1,887,516	50,853	372,967	2,311,336
1976	1,910,381	49,717	313,175	2,273,273
1977	1,951,887	48,535	375,433	2,375,855
1978	1,575,000	59,000	*	1,634,000
1979	1,593,000	76,000	*	1,669,000

* Not estimated.

Source: American Gas Association and American Petroleum Institute, Reserves of Crude Oil, Natural Gas Liquids, and Natural Gas in the United States and Canada as of December 31, 1977; and Office of the Oil and Gas Information System, U.S. Department of Energy, U.S. Crude Oil and Natural Gas Reserves.

INPUTS, OUTPUTS, AND GAS IN UNDERGROUND STORAGE IN WEST VIRGINIA
1960-1980
(Million Cubic Feet)

Year	Input to Storage	Output from Storage	Gas in Storage	Maximum Gas in Storage	Maximum Day Output
1960	148,830	124,767	259,401	296,830	1,729
1961	136,448	108,232	287,388	318,658	1,658
1962	129,259	135,073	281,556	325,490	1,749
1963	147,898	134,985	289,152	332,114	1,980
1964	119,651	118,332	306,073	389,965	1,736
1965	140,864	134,859	319,531	351,111	2,168
1966	149,052	155,327	313,023	355,775	2,337
1967	153,893	140,593	324,563	369,729	2,131
1968	173,777	172,624	325,717	373,124	2,338
1969	168,792	173,773	316,574	370,922	2,198
1970	198,845	163,843	354,290	381,728	2,462
1971	170,361	156,595	368,030	388,375	2,490
1972	165,296	183,385	350,903	389,203	2,662
1973	176,346	153,760	369,031	393,905	2,657
1974	125,857	147,739	362,748	402,214	2,177
1975	157,678	128,569	391,193	415,963	2,318
1976	138,767	194,046	331,287	414,618	2,942
1977	195,861	135,134	392,014	429,051	2,516
1978	177,263	168,337	399,647	418,918	2,968
1979	173,060	159,318	419,951	435,434	2,603
1980	144,551	162,570	401,670	435,862	2,779

Note: Natural Gas Storage figures are estimates and, therefore, do not necessarily correlate from one chart (source) to another.

Source: American Gas Association, The Underground Storage in the U.S. and Canada; and 1980 Gas Facts.

SUMMARY OF ACTUAL ANNUAL NATURAL GAS
LIQUIDS PRODUCTION IN WEST VIRGINIA
(Thousands of Barrels)

	Actual Annual Production	Cumulative Production
Year	Total N.G.L.	Total N.G.L.
1964	0	141,237
1965	7,704	148,941
1966	7,234	156,175
1967	6,624	162,799
1968	5,688	168,487
1969	5,688	174,175
1970	6,742	180,917
1971	6,123	187,040
1972	5,614	192,654
1973	5,651	198,305
1974	5,542	203,847
1975	5,720	209,567
1976	5,343	214,910
1977	5,470	220,380
1978	5,227	225,607
1979	4,904	230,511

Note: No production of natural gas liquids was attributed to gas associated reserves.

Source: American Gas Association and American Petroleum Institute, Reserves of Crude Oil, Natural Gas Liquids, and Natural Gas in the United States and Canada as of December 31, 1977; Independent Petroleum Association of America, The Oil Producing Industry in Your State.

IV. WEST VIRGINIA ELECTRIC INDUSTRY

WEST VIRGINIA ELECTRIC POWER GENERATION BY
FUEL SOURCE OR PRIME MOVER, 1963-1979
(Millions of Kilowatt Hours)

Year	Coal	Fuel Oil	Natural Gas	Hydro	Total Electric Utility Industry
1963	17,824	17	27	352	18,219
1964	18,446	18	38	387	18,889
1965	18,817	33	39	336	19,225
1966	22,735	56	37	391	23,219
1967	26,811	58	26	465	27,359
1968	31,229	72	34	418	31,753
1969	34,889	96	31	418	35,434
1970	34,928	247	35	437	35,647
1971	a	a	a	486	38,935
1972	a	a	a	534	49,000
1973	55,709	306	18	497	56,529
1974	60,363	643	22	477	61,505
1975	60,512	402	29	467	61,410
1976	65,676	385	23	419	66,503
1977	65,462	437	3	415	66,317
1978	60,759	801	1	421	61,982
1979	66,811	427	8	514	67,760

a: Data for 1971 and 1972 was not compiled by the U.S. Department of Energy.

Source: Edison Electric Institute, Statistical Year Book.

STATEMENT OF PRODUCTION AND DISTRIBUTION OF ELECTRICITY IN WEST VIRGINIA
FOR 1979 AND 1980

Line No.		TOTAL ALL COMPANIES	
		1979	1980
1.	Generated in West Virginia*.....	31,917,091,000	36,364,712,000
2.	Purchases: From Non Utilities in West Virginia....	2,403,459,415	-0-
3.	Purchases: From Utilities in West Virginia.....	888,201,200	2,916,627,039
4.	Imports Across State Lines:		
5.	Company's Generation Outside West Virginia.....	2,499,731,000	-0-
6.	Purchases.....	465,316,590	1,566,947,935
7.	Own Company Interchange - In.....	30,653,760,628	38,054,578,000
8.	Total KWH Generated, Purchased and Interchange - In.....	68,527,559,833	78,902,864,434
9.	Sales to Other Utilities in West Virginia.....	1,562,982,027	2,012,545,489
10.	Exports Across State Lines:		
11.	Own Company Interchange - Out.....	44,029,485,777	53,925,815,772
12.	Total Sales to Utilities, Exports and Interchange - Out.....	45,592,467,804	55,938,361,261
13.	Total Supply Available for West Virginia Purposes.....	22,935,092,029	22,964,503,173
14.	Company Use (Electric Department Only).....	87,790,626	146,602,088
15.	Energy Furnished Without Charge.....	-0-	536,780
16.	Line Loss.....	2,012,919,829	1,976,642,500
17.	Total Company Use and Line Loss.....	2,100,710,455	2,123,781,368
18.	Total Supply for Ultimate Consumption in West Virginia.....	20,834,381,574	20,840,721,805
19.	Distribution:		
20.	Residential or Domestic Sales.....	6,127,366,152	6,465,490,651
21.	Commercial and Industrial Sales.....	14,613,915,469	14,278,638,543
22.	Public Street and Highway Lighting.....	64,042,019	64,120,901
23.	Other Sales to Public Authorities.....	29,032,648	30,458,345
24.	Other Sales.....	25,286	2,013,365
25.	Total Distribution.....	20,834,381,574	20,840,721,805

* Generation in West Virginia does not include companies which own generating stations in West Virginia but do not sell power directly to West Virginia customers. See page for total generation tabulation.

Source: West Virginia Public Service Commission's Annual Reports, 1978 and 1979.

ELECTRIC UTILITIES SERVING WEST VIRGINIA - 1980

Rank and Company	Total Supply for Ultimate Consumption in West Virginia (Kilowatt Hours)	Counties Operating In	Average Number of Customers in West Virginia
1. Appalachian Power Company	10,067,055,242	Boone, Cabell, Clay, Fayette, Greenbrier, Jackson, Kanawha, Lincoln, Logan, McDowell, Mason, Mercer, Mingo, Monroe, Nicholas, Putnam, Raleigh, Roane, Summers, Wayne, Wyoming	327,242
2. Monongahela Power Company	7,199,724,000	Barbour, Braxton, Brooke, Calhoun, Clay, Doddridge, Fayette, Gilmer, Grant, Hancock, Harrison, Jackson, Lewis, Marion, Mineral, Monongalia, Nicholas, Pendleton, Pleasants, Pocahontas, Preston, Randolph, Ritchie, Roane, Taylor, Tucker, Tyler Upshur, Webster, Wetzel, Wirt Wood	244,654
3. Wheeling Electric Company	1,899,480,227	Marshall, Ohio	35,703
4. The Potomac Edison Company	1,186,497,000	Berkeley, Grant, Hampshire, Hardy, Jefferson, Mineral, Morgan	56,413
5. Virginia Electric Power Company	279,986,000	Greenbrier, Monroe, Summers	19,007
6. Preston Electric Company	45,288,000	Monongalia, Preston	3,297
7. Harrison Rural Electrification Association, Inc.	26,284,847	Harrison	3,798

ELECTRIC UTILITIES SERVING WEST VIRGINIA - 1980

(Continued)

Rank and Company	Total Supply for Ultimate Consumption in West Virginia (Kilowatt Hours)	Counties Operating In	Average Number of Customers in West Virginia
8. New Martinsville Municipal Utilities	19,491,974	Wetzel	1,381
9. Philippi Municipal Electric and Light Department	22,621,026	Barbour	1,361
10. Union Power Company	16,503,400	Wyoming	1,328
11. United Light and Power Company	19,087,000	McDowell, Wyoming	1,015
12. Black Diamond Power Company	15,322,800	Raleigh	1,305
13. War Light and Power Company	12,302,900	McDowell	960
14. Shenandoah Valley Electric Cooperative	11,527,269	Hardy	1,464
15. Elk Power Company	10,662,600	Clay	969
16. Kimball Light and Water Company	6,120,700	McDowell	475
17. Elkhorn Public Service Company	2,767,320	Monroe	211

Source: Compiled from the Public Service Commission Annual Report.

Major Electric Utilities Serving WEST VIRGINIA

BEST AVAILABLE COPY

TOTAL GENERATION OF ELECTRICITY AND ELECTRICAL GENERATION CAPACITY IN WEST VIRGINIA BY COMPANY - 1980

PLANT	PLANT CAPACITY (MEGAWATTS)	UNITS (MEGAWATTS)	UNIT OWNERSHIP	INDIVIDUAL POWER COMPANY GENERATION AT PLANT (MEGAWATT HOURS)	TOTAL PLANT NET GENERATION (MEGAWATT HOURS)
Albright	292	Unit 1-76	Potomac Edison	456,159 (1)	
		Unit 2-76	Monongahela Power Company		
		Unit 3-140	Monongahela Power Company	1,144,755	1,600,914
Fort Martin	1,107	Unit 1-552	50% Duquesne Power and Light	1,497,352	
			25% Potomac Edison	748,676	
			25% Monongahela Power Company	746,676	
		Unit 2-555	30% Potomac Edison	971,428	
			20% Monongahela Power Company	647,618	
			50% West Penn Power	1,619,046	6,232,796
Harrison	1,920	Unit 1-640			
			25% Monongahela Power Company	3,593,154	
		Unit 2-640	32.76% Potomac Edison	2,742,028	
		Unit 3-640	42.24% West Penn Power	4,632,931	10,968,113
John Amos	2,900	Unit 1-800	Appalachian Power Company		
		Unit 2-800	Appalachian Power Company	12,906,241	17,983,675
		Unit 3-1300	1/3 Appalachian Power Company		
			2/3 Ohio Power Company	5,077,434	
Kammer	630	Unit 1-210	Ohio Power Company		
		Unit 2-210	Ohio Power Company	4,358,674	4,358,674
		Unit 3-210	Ohio Power Company		
Kanawha River	425	Unit 1-215	Appalachian Power Company	2,854,641	2,854,641
Lake Lynn	52	Hydro	West Penn Power Company	142,740	142,740
London	14.4	Hydro	Kanawha Valley Power Company	81,658	81,658
Marmet	14.4	Hydro	Kanawha Valley Power Company	70,834	70,834
Mitchell	1,460	Unit 1-800	Ohio Power Company		
		Unit 2-660	Ohio Power Company	8,440,088	8,440,088

TOTAL GENERATION OF ELECTRICITY AND ELECTRICAL GENERATION CAPACITY IN WEST VIRGINIA BY COMPANY - 1980
(Continued)

PLANT	PLANT CAPACITY (MEGAWATTS)	UNIT (MEGAWATTS)	UNIT OWNERSHIP	INDIVIDUAL POWER COMPANY GENERATION AT PLANT (MEGAWATT HOURS)	TOTAL PLANT NET GENERATION (MEGAWATT HOURS)
Mountaineer	1,300	Unit 1-1300	Appalachian Power Company	3,463,350	3,463,350
Mount Storm	1,697	Unit 1-565	Virginia Electric & Power Company		
		Unit 2-565	Virginia Electric & Power Company		
		Unit 3-550	Virginia Electric & Power Company	5,950,941	5,950,941
		Peaking-17	Virginia Electric & Power Company		
Philip Sporn	1,050	Unit 1-150	Appalachian Power Company		
		Unit 3-150	Appalachian Power Company	1,464,501	
		Unit 2-150	Ohio Power Company		
		Unit 4-150	Ohip Power Company	3,547,716	5,012,217
		Unit 5-450	Ohio Power Company		
Pleasants	1,191	Unit 1-626			
		Unit 2-565 (2)	30% Potomac Edison Company	907,229	
			25% Monongahela Power Company	756,024	
			45% West Penn Power Company	1,360,843	3,024,096
Rivesville	142	Unit 5-48	Monongahela Power Company		
		Unit 6-94	Monongahela Power Company	556,400	556,400
Willow Island	246	Unit 1-58	Monongahela Power Company		
		Unit 2-186	Monongahela Power Company	723,911	723,911
Winfield	14.76	Hydro	Kanawha Valley Power Company	100,952	100,952
			TOTAL AMOUNT OF ELECTRICITY GENERATED IN WEST VIRGINIA		71,561,743

(1) Entitlement of generation is based upon plant investment which was 71.5% Monongahela Power Company and 28.5% Potomac Edison Company for the year 1980.
(2) Unit began commercial operation 12/14/80.

Source: Information obtained from the individual utility companies and compiled by the Fuel and Energy Office.

TOTAL KILOWATT HOURS GENERATED BY COAL BURING ELECTRIC UTILITIES
(Millions)

	1980	1979	1978	1977	1976
Ohio	106,802	111,364	103,445	107,012	106,480
Pennsylvania	98,636	95,555	83,235	83,715	87,514
West Virginia	69,957	66,811	60,759	65,462	65,676
Indiana	69,635	65,687	59,541	61,649	60,878
Illinois	66,910	66,449	63,451	64,437	64,306
Texas	62,053	46,363	32,777	21,439	15,474
North Carolina	60,463	53,231	46,968	52,133	52,636
Kentucky	53,883	50,671	52,192	53,068	54,040
Tennessee	50,616	46,092	47,789	47,486	49,827
Michigan	50,450	51,362	47,615	47,623	46,815
Georgia	49,672	45,079	40,656	38,925	33,240
Missouri	46,915	43,909	41,474	42,674	38,764
Alabama	45,240	41,995	37,367	42,072	40,087

Source: Edison Electric Institute Yearbooks 1976-1979 and U.S. Department of Energy Publication DOE/EIA-0049(80) Power Production, Fuel Consumption and Installed Capacity Data 1980 Annual.

TEN LEADING STATES EXPORTING ELECTRICITY
ACROSS STATE BORDERS IN 1979*

	Trillion BTU's Exported
West Virginia	422.1
Alabama	226.8
Pennsylvania	170.2
Wyoming	165.8
Washington	155.5
North Dakota	139.2
New Mexico	119.5
Oklahoma	86.3
Arizona	72.8
New York	52.2

* Includes associated electrical energy losses. Figures reflect interstate exchange of electricity where more electrical energy was transferred out of the state than into the state.

Source: Compiled by West Virginia Fuel and Energy Office from U.S. Department of Energy statistics.

V. WEST VIRGINIA ENERGY CONSUMPTION

WEST VIRGINIA GROSS ENERGY CONSUMPTION

	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969
COAL										
Trillion Btu	359.210	391.603	396.328	444.113	473.816	485.295	529.310	552.660	612.762	635.846
Thousand Short Tons	14,055	15,423	15,636	17,462	18,583	19,037	20,882	22,024	24,347	25,368
GASOLINE										
Trillion Btu	60.188	60.505	62.122	65.257	64.121	66.415	70.337	72.043	76.305	78.391
Million Gallons	481,236	483,756	496,692	521,766	512.694	531,006	562,380	576,030	610,092	626,766
DISTILLATE OIL										
Trillion Btu	14.702	14.782	14.570	15.255	13.566	16.551	18.238	18.984	21.839	22.053
Thousand Barrels	2,524	2,538	2,501	2,619	2,329	2,841	3,131	3,259	3,749	3,786
KEROSINE										
Trillion Btu	1.562	1.568	1.420	1.339	1.058	1.433	1.654	4.335	1.987	2.152
Thousand Barrels	276	277	250	236	187	253	292	765	350	379
LPG										
Trillion Btu	1.998	2.431	4.293	2.794	2.909	4,112	3,220	2,887	3,875	4.379
Thousand Barrels	498	606	1,070	696	725	1,025	803	717	966	1,062
JET FUEL										
Trillion Btu	.717	.585	.601	.512	.560	.525	.772	.877	1.132	1.425
Thousand Barrels	130	107	110	95	103	96	140	159	205	256
AVIATION GAS										
Trillion Btu	.424	.182	.117	.892	.633	.591	.685	.469	.412	.281
Thousand Barrels	84	36	23	117	125	117	136	93	82	56
OTHER PETROLEUM										
Trillion Btu	16.620	16.546	17.385	18.443	18.321	19.850	19.235	17.294	16.443	19.639
Thousand Barrels	2,541	2,476	2,539	2,850	2,939	3,105	3,096	2,787	3,222	3,158
HYDROELECTRICITY										
Trillion Btu	10.097	11.101	10.971	8.400	9.462	8.657	7.989	10.950	9.948	9.946
Million kWh	938	1,042	1,039	801	904	828	767	1,050	957	952
NATURAL GAS										
Trillion Btu	155.554	168.291	159.207	159.440	168.776	169.698	177.137	155.912	188.676	175.106
Billion Cubic Ft.	150,294	162,600	153,823	154,646	163,543	164,436	171,478	151,078	183,003	169.841
TOTAL CONSUMPTION										
Trillion Btu	588.575	613.860	618.789	663.289	705.126	729.959	756.859	726.260	795.571	786.172

WEST VIRGINIA GROSS ENERGY CONSUMPTION
(Continued)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
COAL										
Trillion Btu	627.905	638.114	733.991	827.972	853.280	821.172	875.221	851.378	784.064	824.7
Thousand Short Tons	25,347	25,975	29,800	33,639	35,756	34,419	36,350	35,636	32,657	34,177
GASOLINE										
Trillion Btu	83.161	86.302	88.797	95.606	96.267	101.456	107.887	111.388	111.716	107.7
Million Gallons	664,902	690,01[illegible]	709,958	764.400	769,692	811,188	862,596	890,310	893,214	860.916
DISTILLATE OIL										
Trillion Btu	22.792	27.133	32.115	34.414	32.684	37.694	39.470	52.416	51.225	62.4
Thousand Barrels	3,913	4,658	5,513	5,908	6,471	6,471	6,776	8,998	8,794	10,720
KEROSINE										
Trillion Btu	1.814	2.087	2.172	1.678	1.837	1.843	1.683	1.441	1.293	4.5
Thousand Barrels	320	368	383	296	324	325	297	254	228	801
LPG										
Trillion Btu	4.774	5.371	6.173	6.840	8.231	6.376	5.781	6.211	5.273	5.7
Thousand Barrels	1,190	1,339	1,539	1,705	2,052	1,590	1,441	1,548	1,315	1,552
JET FUEL										
Trillion Btu	1.422	1.095	.943	.925	.991	1.254	1.544	1.614	1.558	1.8
Thousand Barrels	255	197	170	166	178	225	277	289	279	322
AVIATION GAS										
Trillion Btu	.258	.251	.245	.262	.263	.260	.239	.247	.286	.3
Thousand Barrels	51	50	48	52	52	52	47	49	57	56
OTHER PETROLEUM										
Trillion Btu	21.508	22.858	24.256	25.828	25.990	25.941	27.914	30.355	32.325	54.6
Thousand Barrels	3,398	3,593	3,821	3,893	3,907	4,113	4,737	5,070	5,395	6,337
HYDROELECTRICITY										
Trillion Btu	10.449	12.012	12.937	12.214	11.985	11.058	10.643	9.944	9.715	12.9
Million kWh	996	1,146	1,246	1,176	1,148	1,063	1,026	953	931	1,232
NATURAL GAS										
Trillion Btu	186.898	183.910	204.518	190,044	186.746	161.606	153.588	147.281	154.269	151.2
Billion Cubic Ft.	181,278	178,380	199,141	186,316	182,370	158,435	150,723	144,535	151,839	149
TOTAL CONSUMPTION										
Trillion Btu	795.679	786.140	830.025	848.444	839.464	771.675	809.146	805.001	786.725	803.6

Source: U.S. Department of Energy, State Energy Data Report,.

WEST VIRGINIA ENERGY CONSUMPTION
COMMERCIAL SECTOR

	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969
COAL										
Trillion Btu	4.222	4.202	5.956	4.612	3.939	4.199	5.326	6.369	6.588	4.490
Thousand Short Tons	158	158	223	173	147	157	199	238	246	167
NATURAL GAS										
Trillion Btu	16.041	16.198	17.336	17.610	15.430	14.989	16.420	19.103	21.034	22.202
Billion Cubic Ft.	15,499	15,650	16,750	17,081	14,952	14,524	15,895	18,511	20,402	21,534
DISTILLATE										
Trillion Btu	.024	.046	.048	.050	.036	.036	.047	.048	.037	.035
Thousand Barrels	4	8	8	9	6	6	8	8	6	6
LPG										
Trillion Btu	.176	.224	.377	.247	.254	.235	.194	.153	.212	.238
Thousand Barrels	44	56	94	62	63	59	48	38	53	59
GASOLINE										
Trillion Btu	.337	.357	.368	.343	.296	.344	.320	.292	.292	.294
Million Gallons	2,688	2,856	2,940	2,730	2,352	2,772	2,562	2,310	2,352	2,352
RESIDUAL OIL										
Trillion Btu	.613	.248	.332	.384	.670	.591	1.031	1.442	1.004	1.200
Thousand Barrels	98	39	53	61	107	94	164	229	160	161
ASPHALT AND ROAD OIL										
Trillion Btu	6.093	5.146	5.337	4.708	5.466	6.016	4.952	3.347	5.181	4.499
Thousand Barrels	918	775	805	711	824	907	746	504	781	677
ELECTRICAL SALES										
Trillion Btu	3.814	4.041	4.384	4.688	5.115	5.498	5.952	6.466	7.358	8.171
Million kWh	1,118	1,184	1,285	1,374	1,499	1,611	1,744	1,895	2,157	2,395
ELECTRICAL LOSSES										
Trillion Btu	9.533	9.902	10.580	11.247	12.190	13.195	14.350	15.480	17.605	19.621
TOTAL CONSUMPTION										
Trillion Btu	40.853	40.363	44.719	43.899	43.397	45.104	49.590	52.699	59.313	60.750

WEST VIRGINIA ENERGY CONSUMPTION
COMMERCIAL SECTOR
(Continued)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
COAL										
Trillion Btu	3.341	4.438	4.535	4.886	7.782	4.153	3.240	3.990	4.560	5.0
Thousand Short Tons	124	164	168	183	299	161	125	154	175	198
NATURAL GAS										
Trillion Btu	22.350	23.822	27.374	26.371	25.176	25.272	20.851	19.928	22.861	22.7
Billion Cubic Ft.	21,678	23,109	26,654	25,854	24,586	24,776	20,462	19,556	22,501	22
DISTILLATE										
Trillion Btu	.019	.038	.056	.054	.044	.065	.088	.092	.079	2.7
Thousand Barrels	3	7	10	9	8	11	15	16	14	469
LPG										
Trillion Btu	.229	.255	322	.300	.289	.289	.283	.305	.327	.3
Thousand Barrels	57	64	80	75	72	72	70	76	81	95
GASOLINE										
Trillion Btu	.297	.299	.303	.312	.312	.311	.313	.318	.319	.3
Million Gallons	2.352	2.394	2.436	2.478	2.478	2.478	2.520	2.562	2.562	2.604
RESIDUAL OIL										
Trillion Btu	3.527	4.036	3.514	2.559	1.107	3.615	7.670	7.255	6.551	.1
Thousand Barrels	561	642	559	407	176	575	1,220	1,154	1,042	9
ASPHALT AND ROAD OIL										
Trillion Btu	5.729	6.627	6.889	6.046	5.411	6.262	7.011	5.904	7.663	7.1
Thousand Barrels	863	991	1,039	911	815	944	1,056	890	1,155	1,070
ELECTRICAL SALES										
Trillion Btu	7.622	8.142	8.826	9.589	9.616	9.739	10.342	11.149	11.324	11.8
Million kWh	2,234	2,386	2,587	2,810	2,818	2,854	3,031	3,268	3,319	3,456
ELECTRICAL LOSSES										
Trillion Btu	18.521	19.829	27.310	23.241	23.695	23.952	25.238	27.526	27.75	28.6
TOTAL CONSUMPTION										
Trillion Btu	61.634	67.487	73.129	73.359	73.431	73.658	75.034	76.467	81.43	78.7

Source: U.S. Department of Energy, State Energy Data Report.

WEST VIRGINIA ENERGY CONSUMPTION
RESIDENTIAL SECTOR

	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969
COAL										
Trillion Btu	2.273	2.263	3.207	2.483	2.121	2.261	2.868	3.430	3.548	2.418
Thousand Short Tons	85	85	120	93	79	84	107	128	132	90
NATURAL GAS										
Trillion Btu	51.444	50.895	51.375	53.827	53.500	51.234	54.581	51.808	56.360	58.113
Billion Cubic Ft.	49,704	49,174	49,638	52,209	51,841	49,645	52,837	50,202	54,655	56,366
DISTILLATE FUEL										
Trillion Btu	2.389	4.515	4.785	4.965	3.566	3.536	4.609	4.745	3.679	3.489
Thousand Barrels	410	775	821	852	612	607	791	815	632	599
KEROSENE										
Trillion Btu	.926	1.210	1.204	1.263	.839	1.150	1.323	4.023	1.857	1.873
Thousand Barrels	163	213	212	223	148	203	233	710	327	330
LPG										
Trillion Btu	1.587	2.017	3.389	2.226	2.284	2.115	1.743	1.373	1.908	2.141
Thousand Barrels	396	503	845	555	569	527	434	342	476	534
ELECTRICAL SALES										
Trillion Btu	5.847	6.172	6.592	6.991	7.580	8.070	8.870	9.582	10.618	11.778
Million kWh	1,714	1,809	1,932	2,049	2,222	2,365	2,600	2,808	3,112	3,452
ELECTRICAL LOSSES										
Trillion Btu	14.614	15.122	15.907	16.774	18.065	19.569	21.383	22.941	25.403	28.281
TOTAL CONSUMPTION										
Trillion Btu	79.080	82.194	86.459	88.530	87.955	87.735	95.376	97.303	103.371	108.094

WEST VIRGINIA ENERGY CONSUMPTION
RESIDENTIAL SECTOR
(Continued)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
COAL										
Trillion Btu	1.799	2.390	2.442	2.993	4.477	2.385	1.805	2.225	2.528	2.7
Thousand Short Tons	67	88	91	114	173	93	70	86	98	108
NATURAL GAS										
Trillion Btu	59.770	57.353	61.130	56.800	55.084	52.322	52.411	52.590	54.249	48.8
Billion Cubic Ft.	57,973	55,629	59,523	55,686	53,793	51,296	51,434	51,609	53,395	48
DISTILLATE FUEL										
Trillion Btu	1.903	3.794	5.542	5.357	4.360	6.465	8.754	9.119	7.785	7.5
Thousand Barrels	327	651	951	920	748	1,110	1,503	1,566	1,337	1,280
KEROSENE										
Trillion Btu	1.673	1.956	1.956	1.531	1.162	1.079	.909	1.098	.964	4.2
Thousand Barrels	295	345	345	270	205	190	160	194	170	733
LPG										
Trillion Btu	2.062	2.095	2.897	2.700	2.599	2.602	2.543	2.745	2.939	2.0
Thousand Barrels	514	572	722	673	648	649	634	684	733	538
ELECTRICAL SALES										
Trillion Btu	11.803	12.704	13.787	15.206	15.885	16.988	18.033	19.844	20.862	21.3
Million kWh	3,459	3,723	4,041	4,457	4,656	4,979	5,285	5,816	6,114	6,248
ELECTRICAL LOSSES										
Trillion Btu	28.680	30.937	33.289	36.856	39.143	41.783	44.009	48.993	51.124	51.7
TOTAL CONSUMPTION										
Trillion Btu	107.690	111.430	121.044	121.443	122.710	123.623	128,465	136.613	140.452	138.1

Source: U.S. Department of Energy, State Energy Data Report.

WEST VIRGINIA ENERGY CONSUMPTION
INDUSTRIAL SECTOR

	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969
COAL										
Trillion Btu	208.133	221.298	220.063	257.174	281.414	287.364	298.369	275.616	289.919	282.190
Thousand Short Tons	7,795	8,301	8,258	9,632	10,528	10,735	10,964	10,303	10,825	10,533
NATURAL GAS										
Trillion Btu	78.360	92.657	81.641	77.969	84.660	83.943	86.912	67.128	93.146	94.609
Billion Cubic Ft.	75,710	89,524	78,880	75,625	82,035	81,340	84,039	65,057	90,345	91,182
DISTILLATE AND KEROSENE										
Trillion Btu	2.560	1.951	2.118	2.450	2.412	4.332	4.407	5.123	6.688	6.784
Thousand Barrels	442	336	364	421	415	745	758	881	1,149	1,166
GASOLINE										
Trillion Btu	1.057	.925	.957	.925	.834	.807	.771	.756	.718	.670
Million Gallons	8.442	7.392	7,644	7,434	6,678	6,458	6,174	6,016	5,754	5,876
LPG										
Trillion Btu	.227	.182	.491	.297	.351	1.748	1.278	1.345	1.753	1.984
Thousand Barrels	57	45	123	74	88	436	319	335	437	495
RESIDUAL										
Trillion Btu	8.427	7.287	8.728	9.274	13.473	12.361	14.612	10.997	10.122	9.825
Thousand Barrels	1,340	1,159	1,388	1,475	2,143	1,966	2,324	1,749	1,610	1,563
OTHER PETROLEUM										
Trillion Btu	10.301	9.102	10.634	11.579	15.474	14.420	16.751	12.923	12.240	11.957
Thousand Barrels	1,541	1,458	1,702	1,789	2,473	2,306	2,677	2,067	1,959	1,914
HYDROELECTRIC										
Trillion Btu	5.810	6.040	6.381	4.758	5.412	5.148	3.911	6.101	5.597	587
Million kWh	540	567	604	450	517	493	375	585	538	535
ELECTRICAL SALES										
Trillion Btu	20.183	20.840	22.448	23.660	25.103	27.242	28.248	27.834	30.417	32.262
Million kWh	5,915	6,108	6,577	6,934	7,357	7,984	8,279	8,158	8,915	9,455
ELECTRICAL LOSSES										
Trillion Btu	50.442	51.064	54.153	56.767	59.827	65.383	68.102	66.638	72.773	77.466
TOTAL CONSUMPTION										
Trillion Btu	384.610	412.563	407.886	445.829	485.151	500.939	512.020	474.328	524.806	524.809

WEST VIRGINIA ENERGY CONSUMPTION
INDUSTRIAL SECTOR
(Continued)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
COAL										
Trillion Btu	275.108	254.197	261.922	271.308	254.876	215.406	225.482	196.432	176.201	162.8
Thousand Short Tons	10,250	9,373	9,726	10,110	9,759	8,347	8,716	7,550	6,772	6,496
NATURAL GAS										
Trillion Btu	95.909	91.961	100.353	88.588	90.041	69.305	65.911	59.683	61.664	62.3
Billion Cubic Ft.	93,025	89,196	97,715	86,851	87,931	67,946	64,682	58,570	60,693	61
DISTILLATE AND KEROSENE										
Trillion Btu	6.535	5,623	6.856	6.624	3.879	7.458	9.762	17.624	11.839	23.8
Thousand Barrels	1,123	966	1,178	1,138	669	1,284	1,680	29,566	2,034	4,093
GASOLINE										
Trillion Btu	.600	.502	.455	.448	.493	.412	.391	.424	.337	.3
Million Gallons	4,788	4,032	3,654	3,570	3,948	3,276	3,108	3,402	2,688	2.73
LPG										
Trillion Btu	2.449	2.788	2.903	3.791	5.297	3.443	2.913	3.116	1.956	3.4
Thousand Barrels	611	695	724	945	1,321	858	726	777	488	911
RESIDUALS										
Trillion Btu	6.702	5.048	3.433	2.873	2.496	7.997	18.396	18.138	12.486	12.4
Thousand Barrels	1,066	803	546	457	397	1,272	2,926	2,885	1,986	1,972
OTHER PETROLEUM										
Trillion Btu	14.488	14.948	15.994	18.244	19.106	18.397	19.461	22.941	23.034	33.3
Thousand Barrels	2,322	2,382	2,556	2,728	2,849	2,953	3,443	3,930	3,971	4,985
HYDROELECTRIC										
Trillion Btu	5.860	6.921	7.392	7.051	7.007	6.194	6.286	5.596	5.328	7.5
Million kWh	558	661	712	679	671	595	606	536	511	719
ELECTRICAL SALES										
Trillion Btu	32.160	31.595	32.386	34.040	35.045	31.056	33.492	34.077	34.382	37.6
Million kWh	9,426	9,260	9,492	9,977	10,271	9,102	9,816	9,987	100,077	11,017
ELECTRICAL LOSSES										
Trillion Btu	78.147	76.941	78.196	82.506	86.360	76.384	81.735	84.133	84.257	91.1
TOTAL CONSUMPTION										
Trillion Btu	517.961	490.526	509.861	515.474	504.600	436.052	463.827	441.805	411.484	434.5

Source: U.S. Department of Energy, State Energy Data Report.

WEST VIRGINIA ENERGY CONSUMPTION
ELECTRICAL UTILITY SECTOR

	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969
COAL										
Trillion Btu	140.920	162.816	166.204	178.865	185.277	190.513	229.369	268.571	311.994	346.067
Thousand Short Tons	5,879	6,841	7,001	7,528	7,788	8,025	9,678	11,329	13,120	14,559
NATURAL GAS										
Trillion Btu	.974	.764	.786	.652	.915	.962	.921	.638	.816	.783
Billion Cubic Ft.	941	738	759	632	887	932	892	618	791	759
DISTILLATE										
Trillion Btu	0	0	0	0	.012	0	0	0	.128	.169
Thousand Barrels	0	0	0	0	2	0	0	0	22	29
JET FUEL										
Trillion Btu	0	0	0	0	0	0	0	0	0	0
Thousand Barrels	0	0	0	0	0	0	0	0	0	0
RESIDUAL FUEL										
Trillion Btu	.211	.172	.200	.189	.219	.463	.651	.666	.822	1.231
Thousand Barrels	34	27	32	30	35	74	103	106	131	196
HYDROELECTRIC										
Trillion Btu	4.287	5.061	4.590	3.684	4.051	3.509	4.078	4.850	4.352	4.359
Million kWh	398	475	435	351	387	336	392	465	418	417
TOTAL CONSUMPTION										
Trillion Btu	146.391	168.812	171.779	183.390	190.473	195.447	235.020	272.726	318.111	352.609

WEST VIRGINIA ENERGY CONSUMPTION
ELECTRICAL UTILITY SECTOR
(Continued)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
COAL										
Trillion Btu	347.211	376.754	464.823	548.590	586.013	599.192	644.675	648.719	600.764	654.2
Thousand Short Tons	14,889	16,338	19,805	23,206	25,501	25,805	27,433	27,842	25,608	27,373
NATURAL GAS										
Trillion Btu	.727	.397	.469	.402	.384	.367	.297	.032	.014	.1
Billion Cubic Ft.	705	385	457	393	376	358	290	31	14	*
DISTILLATE										
Trillion Btu	.012	.023	- .041	.017	.763	4.077	4.276	5.240	8.598	4.6
Thousand Barrels	2	4	7	3	131	700	734	900	1,476	786
JET FUEL										
Trillion Btu	0	0	.108	.079	.062	.040	.176	.096	.011	*
Thousand Barrels	0	0	19	14	11	7	31	17	2	2
RESIDUAL FUEL										
Trillion Btu	2.716	2.898	4.043	3.672	7.142	0	0	0	.339	0
Thousand Barrels	432	461	643	584	1,136	0	0	0	54	0
HYDROELECTRIC										
Trillion Btu	4.588	5.091	5.546	5.163	4.978	4.864	4.357	4.348	4.387	5.4
Million kWh	437	486	534	497	477	467	420	417	420	513
TOTAL CONSUMPTION										
Trillion Btu	355.254	385.164	474.948	557.924	599.342	608.541	653.780	658.435	614.113	664.2

* Indicates small, non-zero value.

Source: U.S. Department of Energy, State Energy Data Report.

WEST VIRGINIA ENERGY CONSUMPTION
TRANSPORTATION SECTOR

	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969
COAL										
Trillion Btu	3.663	1.025	.900	.979	1.066	.957	.879	.674	.642	.481
Thousand Short Tons	137	38	34	37	40	36	33	25	24	18
NATURAL GAS										
Trillion Btu	8.735	7.777	8.069	9.381	14.270	18.571	18.403	17.245	17.321	NA
Billion Cubic Ft.	8,440	7,514	7,796	9,099	13,828	17,995	17,815	16,710	16,800	NA
DISTILLATE										
Trillion Btu	10.365	8.629	7.835	7.866	7.759	8.930	9.507	9.380	11.436	11.853
Thousand Barrels	1,779	1,481	1,345	1,350	1,332	1,533	1,632	1,610	1,963	2,035
AVIATION GASOLINE										
Trillion Btu	.424	.182	.117	.892	.633	.591	.685	.469	.412	.281
Thousand Barrels	84	36	23	117	125	117	136	93	82	56
JET FUEL										
Trillion Btu	.717	.585	.601	.512	.560	.524	.772	.877	1.132	1.425
Thousand Barrels	130	107	110	95	103	96	140	159	205	256
MOTOR GASOLINE										
Trillion Btu	58.794	59.223	60.797	63.985	62.990	65.264	69.246	70.996	75.294	77.426
Thousand Barrels	11.193	11.274	11.574	12.181	11.991	12.424	13.182	13.515	14.334	14.739
OTHER PETROLEUM										
Trillion Btu	1.142	1.106	1.170	1.211	1.235	1.149	1.279	1.615	1.765	1.441
Thousand Barrels	185	183	196	200	205	206	211	262	289	228
ELECTRICAL SALES										
Trillion Btu	.055	.062	.070	.063	.032	.031	.030	.022	.023	.021
Million kWh	16	18	20	19	9	9	9	7	7	6
ELECTRICAL LOSSES										
Trillion Btu	.137	.152	.168	.152	.077	.074	.073	.053	.056	.051
TOTAL CONSUMPTION										
Trillion Btu	84.032	78.740	79.726	85.031	88.624	96.181	100.873	101.331	108.081	92.980

WEST VIRGINIA ENERGY CONSUMPTION
TRANSPORTATION SECTOR
(Continued)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
COAL										
Trillion Btu	.445	.335	.268	.195	.132	.035	.019	.013	.012	0
Thousand Short Tons	17	12	10	7	5	1	1	0	0	0
NATURAL GAS										
Trillion Btu	8.142	10.376	15.191	17.883	16.060	14.340	14.118	15.050	15.480	17.2
Billion Cubic Ft.	7,897	10,064	14,792	17,532	15,684	14,059	13,855	14,769	15,236	17
--										
DISTILLATE										
Trillion Btu	14.463	17.784	19.917	22.508	24.314	20.393	17.364	21.043	23.253	24.2
Thousand Barrels	2,483	3,053	3,419	3,864	4,174	3,501	2,981	3,613	3,992	4,160
AVIATION GASOLINE										
Trillion Btu	.258	.251	.245	.262	.263	.260	.239	.247	.286	.3
Thousand Barrels	51	50	48	52	52	52	47	49	57	56
JET FUEL										
Trillion Btu	1.422	1.095	.835	.846	.929	1.192	1.362	1.511	1.546	1.8
Thousand Barrels	255	197	151	152	167	214	245	271	277	320
MOTOR GASOLINE										
Trillion Btu	82.264	85.501	88.039	94.847	95.461	100.733	107.183	110.646	111.060	107.0
Thousand Barrels	657.720	683,634	703.920	758.352	763.266	805.392	856.968	884.646	887.964	855.54
OTHER PETROLEUM										
Trillion Btu	1.356	1.314	1.424	1.587	1.518	1.346	1.491	1.561	1.679	1.7
Thousand Barrels	221	219	239	266	254	225	250	261	281	1
ELECTRICAL SALES										
Trillion Btu	.013	.012	.012	.012	.013	.012	.013	.013	.011	*
Million kWh	4	4	4	4	4	4	4	4	3	4
ELECTRICAL LOSSES										
Trillion Btu	.031	.029	.029	.030	.032	.031	.031	.031	.026	*
TOTAL CONSUMPTION										
Trillion Btu	108.394	116.698	125.961	138.169	138.723	138.343	141.820	150.115	153.354	152.3

* Represents small, non-zero value.

Source: U.S. Department of Energy, State Energy Data Report.

VI. WEST VIRGINIA ENERGY PRICES

WEST VIRGINIA ENERGY FUEL PRICES BY SECTOR/UNITS
(In Current $)

	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969
GASOLINE										
Service Station (cents/gallon)	31.32	31.73	31.15	30.90	30.48	31.65	31.90	32.73	33.54	35.40
DISTILLATE OIL										
Residential (dollars/MM BTU)	1.05	1.07	1.07	1.07	1.07	1.08	1.09	1.13	1.15	1.18
Residential (cents/gallon)	14.60	14.79	14.88	14.87	14.89	15.05	15.14	15.63	15.91	16.33
Commercial (dollars/MM BTU)	0.96	0.99	0.98	0.98	0.97	0.98	0.99	1.03	1.05	1.07
Commercial (cents/gallon)	13.34	13.68	13.62	13.60	13.42	13.60	13.76	14.24	14.51	14.93
Industrial (dollars/MM BTU)	0.96	0.98	0.98	0.97	0.96	0.97	0.99	1.02	1.04	1.06
Industrial (cents/gallon)	13.26	13.60	13.53	13.51	13.32	13.50	13.67	14.14	14.42	14.73
RESIDUAL OIL										
Commercial (dollars/MM BTU)	0.37	0.38	0.36	0.35	0.35	0.35	0.41	0.41	0.42	0.41
Commercial (dollars/bbl)	2.30	2.37	2.26	2.22	2.21	2.21	2.59	2.59	2.62	2.58
Industrial (dollars/MM BTU)	0.36	0.37	0.36	0.35	0.35	0.35	0.41	0.41	0.41	0.41
Industrial (dollars/bbl)	2.28	2.36	2.25	2.20	2.19	2.19	2.57	2.58	2.60	2.55
KEROSENE										
Residential (dollars/MM BTU)	1.13	1.15	1.16	1.17	1.16	1.18	1.19	1.23	1.25	1.27
Residential (cents/gallon)	15.27	15.58	15.70	15.73	15.72	15.92	16.07	16.55	16.86	17.19
Commercial (dollars/MM BTU)	1.04	1.07	1.07	1.07	1.06	1.07	1.09	1.12	1.15	1.16
Commercial (cents/gallon)	14.01	14.46	14.44	14.46	14.25	14.48	14.69	15.17	15.46	15.70
Industrial (dollars/MM BTU)	1.03	1.07	1.06	1.06	1.05	1.07	1.08	1.12	1.14	1.16
Industrial (cents/gallon)	13.93	14.39	14.35	14.37	14.15	14.38	14.59	15.07	15.36	15.59
LIQUID PETROLEUM GAS										
Residential (dollars/MM BTU)	1.11	1.01	0.93	0.96	1.01	1.03	1.07	1.12	0.90	0.88
Residential (cents/gallon)	10.65	9.60	8.91	9.21	9.67	9.85	10.26	10.69	8.63	8.38
Industrial (dollars/MM BTU)	1.01	0.92	0.85	0.88	0.91	0.93	0.97	1.01	0.82	0.79
Industrial (cents/gallon)	9.66	8.83	8.10	8.36	8.65	8.84	9.26	9.67	7.82	7.56
NATURAL GAS										
Residential (dollars/MM BTU)	0.81	0.81	0.82	0.82	0.81	0.82	0.82	0.82	0.84	0.85
Residential (dollars/MCF)	0.84	0.84	0.85	0.84	0.84	0.85	0.84	0.84	0.87	0.88
Commercial (dollars/MM BTU)	0.64	0.65	0.65	0.66	0.66	0.66	0.67	0.67	0.68	0.68
Commercial (dollars/MCF)	0.69	0.69	0.69	0.70	0.69	0.70	0.70	0.69	0.70	0.70
Industrial (dollars/MM BTU)	0.47	0.47	0.48	0.50	0.51	0.50	0.52	0.44	0.43	0.44
Industrial (dollars/MCF)	0.49	0.48	0.49	0.51	0.53	0.52	0.54	0.45	0.44	0.45
ELECTRICITY										
Residential (dollars/MM BTU)	7.64	7.49	7.39	7.29	7.09	6.95	6.69	6.53	6.36	6.21
Residential (dollars/M KWH)	26.08	25.57	25.20	24.86	24.19	23.70	22.84	22.26	21.69	21.20
Commercial (dollars/MM BTU)	6.89	6.80	6.68	6.55	6.34	6.21	5.95	5.81	5.61	5.61
Commercial (dollars/M KWH)	23.50	23.19	22.80	22.35	21.64	21.18	20.29	19.82	19.13	18.79
Industrial (dollars/MM BTU)	2.56	2.55	2.50	2.45	2.39	2.37	2.36	2.38	2.35	2.36
Industrial (dollars/M KWH)	8.74	8.70	8.54	8.35	8.14	8.09	8.04	8.12	8.01	8.05

Note: M denotes thousand units; MM denotes million units.

WEST VIRGINIA ENERGY FUEL PRICES BY SECTOR/UNITS
(In Current $)
(Continued)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
GASOLINE										
Service Station (cents/gallon)	35.73	38.61	38.40	39.56	51.23	57.57	59.07	63.14	64.07	87.13
DISTILLATE OIL										
Residential (dollars/MM BTU)	1.23	1.27	1.29	1.88	2.60	2.77	2.95	3.40	3.59	5.02
Residential (cents/gallon)	17.08	17.66	17.95	26.01	36.08	38.43	40.85	47.16	49.76	69.65
Commercial (dollars/MM BTU)	1.11	1.15	1.17	1.62	2.34	2.59	2.79	3.20	3.38	4.80
Commercial (cents/gallon)	15.40	15.99	16.19	22.42	32.39	35.88	38.63	44.45	46.94	66.56
Industrial (dollars/MM BTU)	1.10	1.15	1.16	1.60	2.32	2.57	2.77	3.19	3.37	4.78
Industrial (cents/gallon)	15.29	15.88	16.07	22.18	32.14	35.70	38.48	44.26	46.74	66.36
RESIDUAL OIL										
Commercial (dollars/MM BTU)	0.51	0.71	0.59	0.75	1.80	1.89	1.86	2.23	2.09	3.06
Commercial (dollars/bbl)	3.18	4.45	3.73	4.74	11.30	11.87	11.69	14.03	13.13	19.23
Industrial (dollars/MM BTU)	0.50	0.70	0.59	0.75	1.79	1.88	1.86	2.23	2.08	3.05
Industrial (dollars/bbl)	3.15	4.40	3.71	4.70	11.26	11.84	11.67	14.01	13.09	19.15
KEROSENE										
Residential (dollars/MM BTU)	1.33	1.37	1.39	1.99	3.11	2.96	3.13	3.63	3.84	5.38
Residential (cents/gallon)	17.98	18.52	18.81	26.86	42.02	40.26	42.24	48.96	51.90	72.65
Commercial (dollars/MM BTU)	1.21	1.25	1.26	1.72	2.84	2.79	-	-	-	-
Commercial (cents/gallon)	16.31	16.86	17.06	23.27	38.33	37.70	-	-	-	-
Industrial (dollars/MM BTU)	1.20	1.24	1.25	1.71	2.82	2.78	2.51	3.41	3.62	5.14
Industrial (cents/gallon)	16.19	16.74	16.94	23.03	38.08	37.53	33.85	46.07	48.88	69.36
LIQUID PETROLEUM GAS										
Residential (dollars/MM BTU)	1.16	1.12	1.13	2.04	2.73	2.51	2.83	3.35	3.30	3.78
Residential (cents/gallon)	11.12	10.69	10.81	19.51	26.10	24.00	27.05	31.97	31.52	34.57
Industrial (dollars/MM BTU)	1.04	1.01	1.01	1.75	2.43	2.33	2.67	3.14	3.10	3.61
Industrial (cents/gallon)	9.95	9.62	9.68	16.75	23.25	22.30	25.48	30.01	29.61	32.93
NATURAL GAS										
Residential (dollars/MM BTU)	0.86	0.91	0.93	0.94	1.07	1.41	1.62	2.47	2.53	2.83
Residential (dollars/MCF)	0.89	0.94	0.96	0.97	1.10	1.45	1.67	2.55	2.61	2.93
Commercial (dollars/MM BTU)	0.68	0.71	0.72	0.74	0.86	1.18	1.46	4.47	2.09	2.61
Commercial (dollars/MCF)	0.71	0.73	0.75	0.76	0.89	1.22	1.50	4.61	2.15	2.69
Industrial (dollars/MM BTU)	0.44	0.50	0.53	0.61	0.72	0.97	1.24	1.92	1.80	2.37
Industrial (dollars/MCF)	0.45	0.51	0.55	0.63	0.74	1.00	1.28	1.99	1.86	2.44
ELECTRICITY										
Residential (dollars/MM BTU)	6.10	6.40	6.79	6.82	7.98	9.58	10.51	10.23	10.65	10.85
Residential (dollars/M KWH)	20.80	21.83	23.16	23.28	27.23	32.70	35.85	34.92	36.34	36.89
Commercial (dollars/MM BTU)	5.50	5.92	6.29	6.41	7.61	9.25	10.11	10.08	10.78	10.56
Commercial (dollars/M KWH)	18.76	20.21	21.48	21.86	25.98	31.55	34.49	34.41	36.77	36.02
Industrial (dollars/MM BTU)	2.46	2.80	3.08	3.20	4.47	6.09	6.39	6.40	7.10	7.13
Industrial (dollars/M KWH)	8.39	9.56	10.52	10.90	15.24	20.78	21.81	2.85	24.23	24.33

Note: M denotes thousand units; MM denotes million units.
Source: U.S. Department of Energy.

VII. WEST VIRGINIA WATER AVAILABILITY

WATER AVAILABILITY IN WEST VIRGINIA

DAILY FLOW RATES OF MAJOR RIVERS

Cubic Feet/Second

River	Measurement Location	Year	Maximum	Minimum	Mean
Big Sandy	Louisa, Kentucky	1964	33,000	96	3,483
		1965	50,500	--	3,664
		1966	36,100	200	4,021
		1967	62,100	229	5,278
		1968	34,200	260	3,649
		1969	39,600	225	2,216
		1970	50,500	370	4,239
		1971	50,200	435	5,424
		1972	69,300	595	7,954
		1973	60,000	404	5,429
		1974	68,900	479	6,819
		1975	57,700	672	7,152
		1976	24,900	394	3,419
Cheat	Rowlesburg, WV	1964	37,000	45	2,115
		1965	17,800	35	1,669
		1966	23,600	64	1,921
		1967	47,800	90	2,575
		1968	29,900	40	1,927
		1969	31,000	165	1,763
		1970	26,600	175	2,284
		1971	24,500	170	2,388
		1972	40,500	129	3,692
		1973	26,800	129	2,453
		1974	28,200	133	2,674
		1975	18,300	133	2,809
		1976	26,300	81	2,038
		1977	26,300	183	2,093
		1978	24,700	183	2,072
		1979	28,900	122	2,833
		1980	24,100	215	2,856
Kanawha	Charleston, WV	1964	111,000	--	12,240
		1965	117,000	--	11,710
		1966	89,900	1,100	12,270
		1967	160,000	2,300	16,350
		1968	74,200	2,190	12,710
		1969	160,000	2,830	11,210
		1970	83,300	2,590	13,290
		1971	67,500	2,000	15,840
		1972	132,000	2,800	24,020
		1973	111,000	2,360	19,210
		1974	110,000	2,380	18,070
		1975	113,000	2,360	19,850
		1976	111,000	2,330	14,310
		1977	130,000	3,710	14,880
		1978	132,000	2,320	18,570
		1979	107,000	2,300	20,260
		1980	70,200	2,250	18,980

WATER AVAILABILITY IN WEST VIRGINIA
(Continued)

River	Measurement Location	Year	Maximum	Minimum	Mean
Little Kanawha	Palestine, WV	1964	19,600	3	1,609
		1965	23,900	1	1,604
		1966	32,400	5	1,201
		1967	48,600	25	2,419
		1968	25,600	28	1,660
		1969	25,400	63	1,207
		1970	32,800	64	2,102
		1971	21,300	48	2,054
		1972	34,800	108	3,482
		1973	27,800	66	2,330
		1974	38,200	74	2,639
		1975	20,500	66	2,428
		1976	28,100	51	1,917
		1977	28,100	62	1,697
		1978	38,000	150	2,307
		1979	39,100	104	3,246
		1980	20,500	104	2,609
Elk	Queen Shoals, WV	1964	13,300	54	1,559
		1965	21,100	70	1,460
		1966	17,000	48	1,416
		1967	35,300	66	2,431
		1968	16,900	69	1,761
		1969	26,200	146	1,503
		1970	13,700	108	2,156
		1971	17,700	112	2,110
		1972	26,100	181	3,802
		1973	20,100	149	2,674
		1974	19,800	161	2,680
		1975	12,800	137	2,707
		1976	17,300	93	1,990
		1977	17,300	69	1,829
		1978	29,600	83	2,306
		1979	30,800	84	2,953
		1980	16,600	122	2,521
Gauley	Belva, WV	1964	34,500	39	2,317
		1965	20,200	11	1,841
		1966	17,400	48	2,231
		1967	21,100	174	3,093
		1968	14,600	173	2,516
		1969	24,100	202	2,296
		1970	20,800	126	2,857
		1971	19,600	175	2,914
		1972	26,700	115	4,556
		1973	20,800	202	3,231
		1974	26,800	171	3,269
		1975	26,600	159	3,637
		1976	21,700	173	2,653
		1977	20,200	190	2,651
		1978	24,500	171	2,817
		1979	18,300	124	3,911
		1980	17,000	255	3,231

WATER AVAILABILITY IN WEST VIRGINIA
(Continued)

River	Measurement Location	Year	Maximum	Minimum	Mean
West Fork	Enterprise, WV	1964	7,570	26	891
		1965	9,700	38	856
		1966	17,000	34	686
		1967	33,300	34	1,205
		1968	22,600	58	966
		1969	15,400	65	744
		1970	12,900	57	1,010
		1971	14,700	68	1,144
		1972	20,900	90	1,719
		1973	12,600	59	1,200
		1974	21,300	68	1,269
		1975	13,000	65	1,335
		1976	13,200	74	958
		1977	13,200	77	871
		1978	25,900	65	1,116
		1979	25,600	67	1,750
		1980	10,000	100	1,477
Ohio	Belleview Dam	1964	416,000	4,260	44,470
		1965	165,000	5,020	40,390
		1966	322,000	4,560	38,450
		1967	273,000	6,130	47,760
		1968	350,000*	---	---
		1969	251,000*	---	---
		1970	335,000*	---	---
		1971	300,000*	---	---
		1972	385,000*	---	---
		1973	368,000*	---	---
		1974	440,000*	---	---
		1975	328,000*	---	---
		1976	---	---	---
		1977	261,000	108,000	162,700
		1978	390,000	5,670	68,070
		1979	330,000	8,700	67,480
		1980	208,000	10,200	69,190
	*Point Pleasant, West Virginia (A statistical low flow value of 7,500 cfs which would occur for seven consecutive days only once in 20 years applies at Lock and Dam No. 23.)				
Greenbrier	Hilldale, WV	1964	36,800	40	1,926
		1965	25,600	46	1,900
		1966	26,000	58	1,851
		1967	45,000	89	2,719
		1968	22,600	62	1,708
		1969	39,100	129	1,540
		1970	32,300	80	1,962
		1971	25,600	102	2,413
		1972	41,200	161	3,901
		1973	51,000	123	3,073
		1974	31,000	125	2,516
		1975	24,600	125	2,934
		1976	39,000	86	2,128
		1977	46,200	140	2,136
		1978	35,200	84	2,315
		1979	34,600	84	3,039
		1980	25,600	137	2,855

WATER AVAILABILITY IN WEST VIRGINIA
(Continued)

River	Measurement Location	Year	Maximum	Minimum	Mean
Potomac	Paw Paw, WV	1964	43,900	214	2,859
		1965	23,000	192	2,655
		1966	28,000	172	2,374
		1967	58,600	350	3,432
		1968	27,000	226	2,584
		1969	14,200	286	1,579
		1970	39,400	310	3,579
		1971	38,400	300	3,899
		1972	53,400	414	4,807
		1973	44,700	483	4,286
		1974	32,200	364	3,285
		1975	54,600	364	4,248
		1976	65,500	324	3,247
		1977	65,500	279	3,146
		1978	47,000	453	4,540
		1979	59,700	447	4,533
		1980	32,300	473	4,462
Monongahela	Lock #15	1964	19,700	340	3,401
		1965	20,900	290	3,101
		1966	24,900	280	2,879
		1967	---	---	---
		1968	---	---	---
		1969	---	---	---
		1970	---	---	---
		1971	---	---	---
		1972	83,000	753	12,800*
		1973	49,300	532	8,302*

*Greensboro, Pennsylvania
(A statistical low flow value of 340 cfs which would occur for seven consecutive days only once in ten years applies at Lock and Dam No. 8.)

Monongahela	Cobun Creek	1976	188	.05	13.6
		1977	188	.19	14.5
		1978	170	.19	19.4
		1979	290	.33	23.7
		1980	1,200	.44	24.1
Tygart Valley	Colfax, WV	1964	17,400	221	2,193
		1965	17,100	144	1,909
		1966	17,800	192	1,970
		1967	19,000	169	3,044
		1968	18,200	185	2,134
		1969	9,660	220	2,044
		1970	17,100	272	2,591
		1971	18,700	176	2,734
		1972	18,000	336	4,311
		1973	11,900	277	2,699
		1974	18,200	336	3,000
		1975	11,900	168	2,975
		1976	11,000	173	2,298
		1977	11,800	197	2,295
		1978	12,000	390	3,031
		1979	15,200	254	3,499
		1980	15,500	375	3,413

WATER AVAILABILITY IN WEST VIRGINIA
(Continued)

River	Measurement Location	Year	Maximum	Minimum	Mean
Guyandotte	Branchland, WV	1964	14,000	42	1,375
		1965	23,600	74	1,339
		1966	13,700	65	1,295
		1967	36,100	116	1,861
		1968	18,000	110	1,406
		1969	24,000	85	867
		1970	26,800	89	1,363
		1971	16,200	179	1,714
		1972	38,200	222	2,908
		1973	22,700	100	1,843
		1974	34,700	148	2,423
		1975	23,300	148	2,581
		1976	8,110	112	1,326
		1977	31,800	158	1,677
		1978	26,300	126	2,073
		1979	32,400	106	2,978
		1980	11,300	185	2,052

Source: Water Resources Data for West Virginia, U.S. Geological Survey and U.S. Army Corps of Engineers

VIII. SEASONAL DEGREE HEATING DAYS FOR WEST VIRGINIA

SEASONAL DEGREE HEATING DAYS
FOR WEST VIRGINIA

County	30 yr. avg.	77-78	78-79	79-80
Barbour	5586	6672	5652	6292
Berkeley	5231	5274	5093	4504
Boone	4715	5367	4996	5343
Braxton	4957	5529	5469	4806
Brooke	5484	6017	5828	5553*
Cabell	4785	5457	5010	4402*
Calhoun	5020	5863	5340	5298
Clay	4665	5878	5218	4797**
Doddridge	5133	6119	5542	5806
Fayette	5502	5836	5349	5568
Gilmer	4929	6075	5401	5478*
Grant	5825	7278	6743	6691*
Greenbrier	5406	5921	5476	5242
Hampshire	5511	6064	5579	5319
Hancock	5280	5989	5603	5497
Hardy	5511	6017	5513	5818
Harrison	5449	5951	5608	5656
Jackson	4749	5244	4881	4987
Jefferson	5059	6034	5640	5344
Kanawha	4603	5408	4858	4881
Lewis	5124	6222	5745	5835
Lincoln	4995	5366	5296	5378
Logan	4397	5397	5095	5006
Marion	5315	6179	5828	5755
Marshall	5166	6195	5855	5825
Mason	4736	5383	5426	5571
McDowell	4860	5516	4973	5089
Mercer	6327	5665	5663	5631
Mineral	5825	6671	5772	5955**
Mingo	4254	5134	4955	5089
Monongalia	5235	5902	5450	5735*
Monroe	5605	5811	5275	5443
Morgan	5231	6184	5906	5501
Nicholas	5283	6738	5717	5817
Ohio	5402	5783	5385	5419
Pendleton	5784	6016	6368	5818**
Pleasants	5061	5851	5388	5865
Pocahontas	5401	6308	6222	5991
Preston	5896	7201	6390	6416
Putnam	4784	5522	4976	5074
Raleigh	5539	6095	5586	5785
Randolph	5975	6731	6099	6290
Ritchie	4986	5653	5057	5503**
Roane	4850	5616	5306	5702
Summers	5618	5701	5190	5307

SEASONAL DEGREE HEATING DAYS
FOR WEST VIRGINIA
(Continued)

County	30 yr. avg.	77-78	78-79	79-80
Upshur	5333	5977	5443	5563
Wayne	4624	5392	4687	4784
Webster	4817	5501	4945	5035
Wetzel	4930	6079	5642	5845**
Wirt	5313	6195	5658	5708
Wood	4817	5774	5291	5148
Wyoming	4944	5571	5055	5085
Spruce Knob			7168	8569
Snowshoe			7818	8144

* Approximated
** Projected Closest Station

Degree Days, Heating. The degree day value for any given day is the difference between 65 and the mean daily temperature. Example: For a mean daily temperature of 50°F the number of degree days is 65 minus 50 or 15. Degree days are measure of the severity of the entire season and are directly proportional to fuel consumption.

Source: National Weather Service